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Worklife Estimates: Effects of Race and Education

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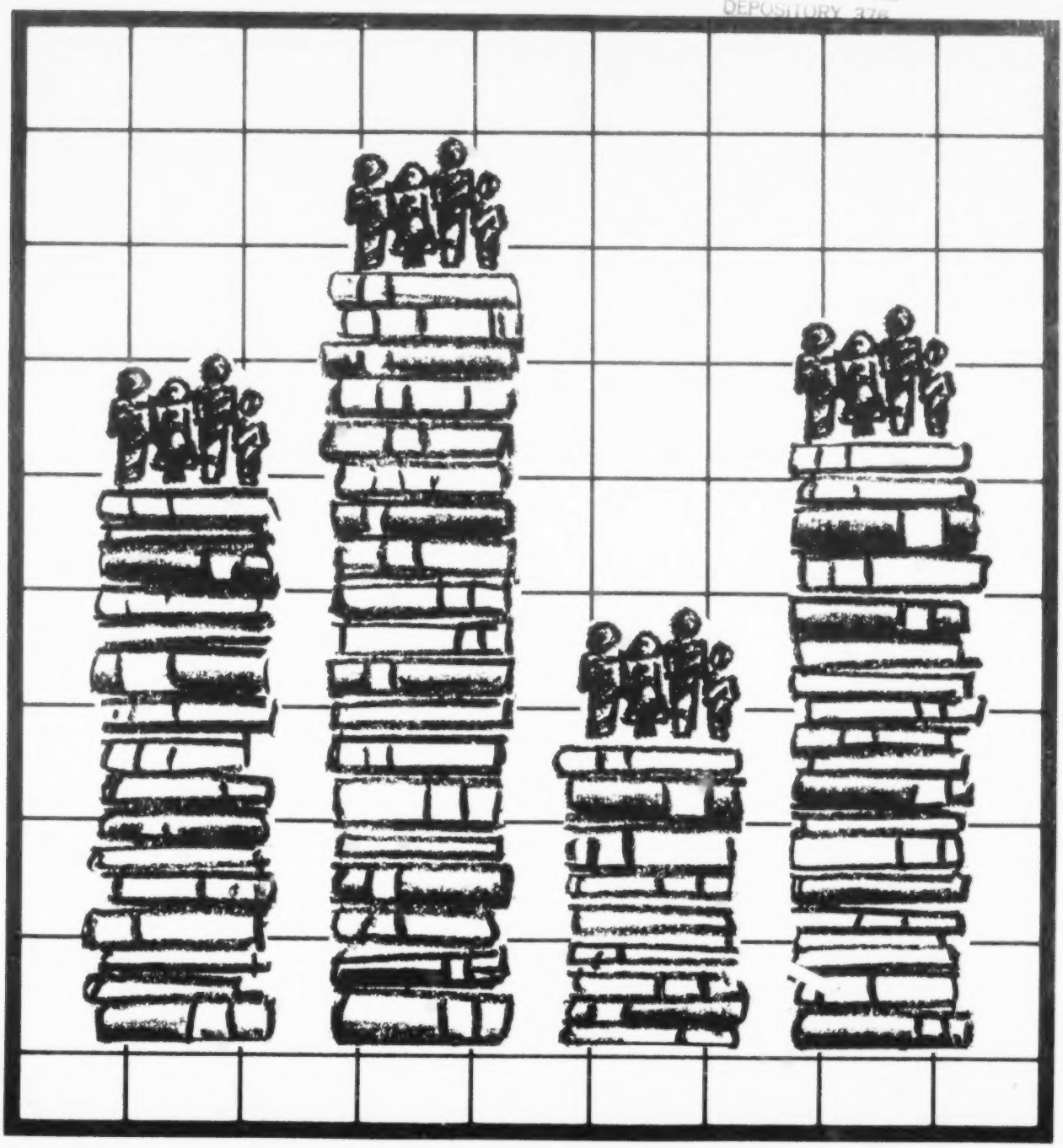

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Worklife Estimates: Effects of Race and Education

U.S. Department of Labor
William E. Brock, Secretary

Bureau of Labor Statistics
Janet L. Norwood, Commissioner
February 1986

Bulletin 2254

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Preface

This bulletin on new estimates of working life for men and women continues the BLS series begun in 1950, and incorporates methodological improvements introduced in 1982. It contains, in addition to a discussion of changes in worklife expectancy since 1977—first published in the March 1982 *Monthly Labor Review*—updated and expanded worklife tables for 1980, including the effects of race and educational attainment on worklife expectancy.

The author, Shirley J. Smith, is a demographic statistician in the Office of Employment and Unemployment Statistics, Bureau of Labor Statistics. This bulletin is based on a paper she and Francis W. Horvath, an economist with the Bureau, presented at the 1984 annual meeting of the Population Association of America, Minneapolis, Minnesota. Robert J. McIntire and Jeannette Montgomery, of the Data Services Group, assisted in the preparation of the tables. The text for this bulletin is reprinted from the August 1985 *Monthly Labor Review*, pages 23-30, and includes some data corrections.

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Revised worklife tables reflect 1979–80 experience

New worklife estimates, based on an expanded sample of individuals, provide more complete measures of labor force behavior than were previously possible; the effects of race and educational attainment on lifetime economic activity are explored for the first time

SHIRLEY J. SMITH

It is estimated that if mortality conditions and labor force entry and exit rates held constant at levels observed in 1979 to 1980, males born during those years would work about a third longer (38.8 years) over their lifetimes than would their female counterparts (29.4 years). Whites would work considerably longer than blacks and others, with white women working more than 2 years longer and white men nearly 7 years longer than their minority counterparts. The impact of education would be seen not only in occupational choice, but also in the total length of time spent in the labor force. Although remaining in school might delay career entry, those who studied longest would also spend the most years being economically active.

The Bureau of Labor Statistics has been producing worklife estimates for the U.S. population since 1950. Initially, these estimates portrayed workers as being continuously active from the time of initial labor force entry until final retirement. In 1982, after completing a major study of worklife methodology, the BLS published its first set of increment-decrement, or multistate, working life tables for the years 1970 and 1977.[1] Based on observed rates of labor force entry and exit at all ages, those tables for the first time quantified the impact of midlife labor force withdrawal and reentry on worklife duration. Their publication drew responses from many economists involved in litigation of wrongful injury or death cases. Several such responses have been published in the *Monthly Labor Review*,[2] and some of the refinements proposed by readers have since been implemented in BLS worklife research.[3]

This analysis incorporates some of those refinements, updates the 1982 study, and presents a new set of official worklife estimates based on patterns observed during the period 1979–80. It also adds two new dimensions to the discussion, for the first time exploring how race and educational background affect lifetime labor force behavior.

Method of the new study

As was the case with previous BLS worklife estimates, the new figures have been calculated from information collected in the Current Population Survey (CPS), a nationwide monthly household survey conducted by the Bureau of the Census on behalf of the BLS.[4] Individuals are interviewed during each of 4 successive months, and again in the same 4 months of the following year. Questions focus on the labor force behavior of household members during the week preceding each interview.

For the period of study, CPS records have been matched so that each person's status at the beginning and end of a 12-month interval can be compared. Labor force transitions

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have been registered if labor force status changed between the two reference dates. Transition rates have been developed for each age, sex, race, and educational category to identify the group's unique pattern of labor force mobility.

The worklife tables for 1977 were derived from a single matched sample of about 40,000 persons, interviewed in January 1977 and again in January 1978. To provide the additional demographic detail presented below, the current study pools six matched samples focusing on individuals' labor force status in a given month of 1979 and in the same month of 1980. Specifically, the study focuses on persons interviewed in the following months of each of the 2 years: January, March, May, July, September, and November. Together the six samples include nearly 255,000 matched responses.[5]

The multistate working life table model is extremely sensitive to rapid changes in rates of labor force entry or withdrawal. Tables based on a recessionary period, during which labor force exits increase, present a very bleak picture of lifetime labor force involvement. Conversely, those calculated during periods of rapid recovery or expansion tend to overstate the average degree of lifetime labor force attachment. To avoid the problems caused by the cyclical swings of the early 1980's, the current study rests on data for a somewhat earlier but less turbulent period, 1979 to 1980.

The cost of avoiding cyclical irregularities in this way is that certain secular trends may be understated. To the extent that underlying patterns of male and female labor force involvement have converged since 1980, the sex differentials in this report may overstate those now in evidence. However, until it is possible to update the tables again, the 1979–80 period has been judged the most viable for calculation of multistate worklife estimates.

Factors affecting worklife duration

In the working life tables for 1970 and 1977, worklife duration was treated as if it were a simple function of sex and age. Tables were prepared separately for men and women, giving no additional demographic or functional detail by race, educational attainment, occupation, or other characteristics that might distinguish high from low turnover groups.

In reality, labor force attachments are influenced by a variety of factors, including training, health, marital and family responsibilities, economic opportunity, and additional sources of income. However, it is not feasible to control for all of these factors in computing worklife expectancy. For example, while worklife estimates by occupation are in particular demand, it would require development of a clustering scheme for occupations by prevailing work patterns, together with study of job changes among potentially hundreds of occupations, to compute them. The only other approach is to assume that no such changes occur.[6] Because neither of these alternatives is practical, no such estimates are computed. Nonetheless, this study does add two new dimensions to the estimation of worklife: race and education. Tables are presented separately for each of these two variables. However, the combined impact of race and education has not been computed because the present matched sample is too limited to develop reliable joint probabilities.

Working life tables show the combined effects of mortality and labor force mobility rates on lifetime labor force involvement. The mortality estimates used in this report are averages of the 1979 and 1980 values released by the National Center for Health Statistics.[7] Tables by race incorporate the effects of sex- and race-specific mortality. Those focusing on education employ only sex-specific rates, because there are no comparable mortality tables by education. Of course, access to health care is apt to be correlated with schooling. If it were possible to quantify this relationship, the tables would probably show still wider discrepancies between the worklives of the less and more educated.

Apart from the factors listed above, all of which affect the behavior of workers, certain properties of the data may also influence our perception of that behavior. Model assumptions and sample design are two such factors. The BLS worklife model has changed little since 1977; it should cause no marked discontinuities.[8] However, the expanded sample, in which subsets are observed at six different points during the year, captures more labor force mobility than was evident in the earlier tables. In particular, the new sample includes two groups of persons whose labor force behavior was observed, retrospectively, in May and July of each of the 2 years. This is the period during which students and seasonal workers are most likely to report themselves as economically active.

Neither worklife expectancies nor net flows appear to have changed greatly between 1977 and the end of the decade. But rates of labor force accession and separation rose noticeably. Because of modification of the sample, such differences should not be interpreted as an accurate reflection of "changes" in mobility rates.

Developments between 1977 and 1979–80

The general relationships observed in earlier worklife tables remained valid through the end of the 1970's. Women continued to have higher probabilities of labor force exit and reentry than men. Consequently, men continued to have longer worklives, on average, than women. (See table 1.) Not surprisingly, the worklife expectancy of persons in the labor force was higher than that of the inactive population. The gap was small for young persons, but widened considerably with age. Men who were in the labor force at age 50 could expect to work 4.8 years longer than other men at that age. The comparable figure for women was 4.5 years.

Between 1977 and 1980, the cross-sectional participation rates of men changed very little. (See table 2.) Those of older teenagers and men above the age of 55 dropped slightly. In contrast, the activity rates of women continued to climb. There was an overall gain of more than 3 percentage points,

Table 1. Worklife expectancy of the population, 1970 and 1977, and of all persons by labor force status in 1979–80, by sex and age

[In years]

Sex and age	Worklife expectancy of the population		Worklife expectancy by current labor force status, 1979–80		
	1970	1977	Total	Active	Inactive
Men					
0	37.8	37.9	38.8	—	38.8
16	38.7	38.5	39.1	39.8	38.3
20	37.3	36.8	36.8	37.4	35.7
25	34.4	33.4	33.1	33.5	31.8
30	30.6	29.2	28.9	29.2	27.1
35	26.1	24.7	24.5	24.8	22.1
40	21.7	20.3	20.0	20.4	16.9
45	17.4	15.9	15.7	16.3	11.8
50	13.4	11.7	11.6	12.3	7.5
55	9.5	7.8	7.8	8.7	4.2
60	6.0	4.3	4.4	5.7	2.2
65	3.1	1.9	2.3	4.1	1.2
70	1.4	.9	1.2	3.2	.4
75	.6	.5	.6	1.7	.0
Women					
0	22.3	27.5	29.4	—	29.4
16	22.5	27.7	29.3	30.1	28.7
20	21.3	26.0	27.2	27.9	26.1
25	19.0	23.0	24.0	24.8	22.6
30	16.7	19.9	20.8	21.7	19.1
35	14.6	16.8	17.6	18.6	15.7
40	12.3	13.7	14.3	15.5	12.1
45	9.9	10.5	11.1	12.5	8.4
50	7.5	7.5	8.0	9.8	5.3
55	5.2	4.8	5.2	7.2	2.9
60	3.1	2.5	3.0	5.0	1.5
65	1.4	1.1	1.5	3.8	.7
70	.5	.5	.8	3.0	.3
75	.1	.1	.3	1.3	.0

with the largest change occurring in the age range 25 to 54. This change in cross-sectional rates signaled shifts in the underlying patterns of labor force involvement. However, because the multistate model builds on flow data (that is, entry and exit rates) rather than stocks (activity rates), the relationship between changes in activity rates and worklife values is sometimes weak.[9]

During the period in question, the observed participation rate for men 16 and older edged downward from 77.7 percent to 77.4 percent, while their worklife expectancy rose by .6 years. Worklife expectancies held steady for men aged 55 to 64, despite a modest drop in activity rates. Further, despite the observed drop in participation rates of those 65 and older, worklife expectancies for these men actually rose slightly as life expectancy increased.

Among women 16 and older, whose total activity rate rose by 3.1 percentage points, worklife duration increased by 1.8 years. The fact that expectancies rose across the board indicates that women of all ages were developing a stronger bond with the job market.

The relationship between lifespans and worklife expectancies is particularly revealing. (See table 3.) Between 1977 and the end of the decade, the life expectancy of the average 20-year-old man rose by half a year. His worklife expectancy went unchanged, the entire gain being allocated to nonmarket activity. Women of the same age also gained a half year of life, but allocated this additional time to labor force activity and reduced nonmarket time by an average of .7 years, for a total worklife gain of 1.2 years. As a result, the sex differential in worklife continued to narrow. Whereas in 1977 the 20-year-old woman could expect to work 70.7 percent as long as her male counterpart, by 1979–80 the ratio had risen to 73.9 percent.

The trend toward earlier retirement observed between 1970 and 1977 appeared to have leveled off in the closing years of the decade. The worklife expectancy of 65-year-old men, which had dropped from 3.1 years in 1970 to 1.9 in 1977, was 2.3 years by the end of the decade. (See table 4.) For women of a comparable age, the figure had dropped from 1.4 to 1.1 years, but stood at 1.5 years by 1979–80. The model's insensitivity to hours of work makes it difficult to interpret these changes. They may well reflect the impermanence of many retirement decisions, and the fact that so-called retirees often resume part-time jobs for either economic or social reasons.[10]

The new tables show little change in the proportion of persons expected to die while economically active. (See table 4.) In 1977, the figures for men and women were 27.0 percent and 9.5 percent, respectively, compared with 27.4 percent and 10.4 percent for 1979–80.

Differentials by race and education

Although expansion of the data base for the present study has obscured our view of changing labor force mobility rates, this loss has been more than offset by an improved perspective on racial and educational differentials. Data users have long pressed for more focused tables, and the new estimates should meet some of their more urgent needs.

Life table models derive their estimates of lifetime behavior not from panel studies but from a series of cross-sectional surveys collected during a single year. Each age

Table 2. Annual average civilian labor force participation rates by sex and age, 1977 and 1980

[In percent]

Sex and age	1977	1980	Change, 1977–80
Men, total	77.7	77.4	–.3
16–17	50.3	50.1	–.2
18–19	72.5	71.3	–1.2
20–24	85.7	85.9	.2
25–34	95.4	95.2	–.2
35–44	95.7	95.5	–.2
45–54	91.2	91.2	—
55–64	74.0	72.1	–1.9
65 and over	20.1	19.0	–.9
Women, total	48.4	51.5	3.1
16–17	42.2	43.6	1.4
18–19	60.5	61.9	1.4
20–24	66.5	68.9	2.4
25–34	59.5	65.5	6.0
35–44	59.6	65.5	5.9
45–54	55.8	59.9	4.1
55–64	41.0	41.3	.2
65 and over	8.1	8.1	—

group in the population being analyzed contributes a single year of life to the synthetic whole. It is possible to derive group-specific estimates only if the group is closed to entry and exit. If its members remain so classified for life, the experiences of older persons can be used to derive a synthetic "future" for the young.

In the new tables, the population is subdivided by sex, race, and educational attainment. While subject to misclassification, each of these traits is normally fixed during the adult years. Sex and race are particularly stable, and beyond the mid 20's, education—especially as classified here—is also relatively fixed. Only persons who already have some advanced training are likely to continue schooling, and attainment levels, once achieved, cannot be lost. Because these groupings are closed, they satisfy the constraints of the model. And because they relate closely to labor force behavior, they are substantively meaningful controls.

The specific categories of tabulation have been dictated by sample size and population distribution. The two racial categories displayed are white (88 percent of the sample) and blacks and others (12 percent). A separate set of tables details years of schooling completed, using the categories of less than high school (about 20 percent of the sample), high school graduate to 14 years (about 52 percent of the sample), and 15 years or more (about 28 percent). At older ages, the sample of highly educated persons is very thin, particularly for women. This has made the more conventional cutoff of a college degree impossible to implement.

Race. Because the two components of worklife estimates, mortality and labor force behavior, are known to vary by race, the estimates themselves must also do so if appropriately tabulated. The new tables based on 1979–80 data now allow us to quantify the lifetime relationship between race and labor force involvement. As might be expected, the impact is striking, particularly for men.

Consider first the probabilities of moving into and out of the labor force. Among all men ages 16 to 64 who are outside the job market, whites are more likely to enter than are their minority counterparts. (See table 5.) Among those already in the labor force, blacks and others are the more likely to withdraw. The pool of inactive minority members is thus disproportionately large and contributes to a high incidence of labor force mobility at all ages.

The result is that minority men are estimated to average 4.3 labor force entries and 3.9 withdrawals per lifetime, while white men average 3.9 entries and 3.6 withdrawals. (See table 4.) Based on the observations for the reference period, the worklife expectancy of blacks and others was nearly 7 years shorter than that of whites (32.9 years vs. 39.8 years). Minority men spent an average of just 50 percent of their lives in labor force activity, compared with 56 percent for whites. This difference was all the more striking because whites tended to live longer, allowing them greater potential for both a longer worklife and post-retirement leisure. Far more blacks and others were likely to die before retirement (31.7 percent as against 26.7 percent for whites).

Table 3. Changes in life and worklife expectancies by sex, selected years, and changes from 1977 to 1979–80

Worklife model, sex, and year	Life expectancy		Worklife expectancy			Inactive years (total population)		Percent of lifespan active		Ratio of female to male worklife expectancies at age 20
			All persons		Workers					
	At birth	At age 20	At birth	At age 20	At age 20	From birth	From age 20	From birth	From age 20	
Men										
Conventional model:										
1900	46.3	42.2	32.1	37.8	39.4	14.2	4.4	69.3	89.6	[1]
1940	61.2	48.6	38.1	39.7	41.3	23.1	7.1	62.3	84.8	[1]
1950	65.5	48.9	41.5	41.4	43.1	24.0	7.5	63.4	84.7	[1]
1960	66.8	49.6	41.1	40.9	42.9	25.7	8.7	61.5	82.5	[1]
Increment-decrement model:										
1970	67.1	49.6	37.8	37.3	38.0	29.4	12.3	56.3	75.2	[1]
1977	69.3	51.3	37.9	36.8	37.3	31.5	14.5	54.7	71.7	[1]
1979–80	70.0	51.8	38.8	36.8	37.4	31.2	15.0	55.4	71.0	[1]
Change, 1977 to 1979–80	.7	.5	.9	.0	.1	−.3	.5	.7	−.7	[1]
Women										
Conventional model:										
1900	48.3	43.8	6.3	[2]	[2]	42.0	[2]	13.0	13.7	[2]
1940	65.7	50.4	12.1	11.9	[2]	53.6	38.5	18.4	23.6	30.0
1950	71.0	53.7	15.1	14.5	[2]	55.9	39.2	21.3	27.0	35.0
1960	73.1	55.7	20.1	18.6	37.3	53.0	37.1	27.5	33.4	45.0
Increment-decrement model:										
1970	74.8	56.7	22.3	21.3	22.1	52.4	35.4	29.8	37.6	57.1
1977	77.1	58.6	27.5	26.0	26.7	49.7	32.6	35.7	44.4	70.7
1979–80	77.6	59.1	29.4	27.2	27.9	48.2	31.9	37.9	46.0	73.9
Change, 1977 to 1979–80	.5	.5	1.9	1.2	1.2	−1.5	−.7	2.2	1.8	3.2

[1] Not applicable.

[2] Data not available.

Table 4. Selected worklife indices by sex, 1970, 1977, and 1979–80, and by sex, race, and years of schooling completed, 1979–80

[In years, unless otherwise indicated]

Index and age	Men								Women							
	Total			1979–80					Total			1979–80				
				Race		Schooling completed						Race		Schooling completed		
	1970	1977	1979–80	White	Blacks and others	Less than high school	High school to 14 years	15 years or more	1970	1977	1979–80	Whites	Blacks and others	Less than high school	High school to 14 years	15 years or more
Life expectancy:																
At birth	67.1	69.3	70.0	70.7	65.3	70.0	70.0	70.0	74.8	77.1	77.6	78.3	73.9	77.6	77.6	77.6
At age 25	45.1	46.8	47.3	47.9	43.3	47.3	47.3	47.3	51.9	53.8	54.2	54.7	51.0	54.2	54.2	54.2
At age 60	16.1	17.0	17.5	17.6	16.5	17.5	17.5	17.5	20.8	22.1	22.4	22.6	21.0	22.4	22.4	22.4
At age 65	13.1	13.9	14.2	14.3	13.8	14.2	14.2	14.2	17.0	18.3	18.5	18.7	17.7	18.5	18.5	18.5
Worklife expectancy:[1]																
At birth	37.8	37.9	38.8	39.8	32.9	[2]34.6	[2]39.9	[2]41.1	22.3	27.5	29.4	29.7	27.4	[2]22.3	[2]30.1	[2]34.9
At age 25	34.0	33.4	33.1	33.8	28.6	29.2	33.8	36.1	19.0	23.0	24.0	24.1	23.5	17.9	24.4	27.9
At age 60	6.0	4.3	4.4	4.5	3.3	3.3	4.7	6.3	3.1	2.5	3.0	3.0	3.0	2.3	3.3	3.5
At age 65	3.1	1.9	2.3	2.3	1.8	1.8	2.4	3.6	1.4	1.1	1.5	1.5	1.5	1.2	1.8	1.8
Percent of life economically active:[3]																
From birth	56.3	54.7	55.4	56.3	50.4	49.4	57.0	58.7	29.8	35.7	37.9	37.9	37.1	28.7	38.8	45.0
From age 25	76.3	71.4	70.0	70.6	66.1	61.7	71.5	76.3	36.6	42.8	44.3	44.1	46.1	33.0	45.0	51.5
From age 60	37.3	25.3	25.1	25.6	20.0	18.9	26.9	36.0	14.9	11.3	13.4	13.3	14.3	10.3	14.7	15.6
From age 65	23.7	13.7	16.2	16.1	13.0	12.7	16.9	25.4	8.2	6.0	8.1	8.0	8.5	6.5	9.7	9.7
Labor force entries per:																
Person born	2.9	3.0	3.9	3.9	4.3	4.3	3.7	4.6	4.6	4.5	5.5	5.6	5.4	5.8	5.6	5.6
Person age 25	1.2	1.1	1.5	1.5	1.8	2.0	1.5	1.4	2.8	2.7	3.0	3.0	3.1	3.3	3.2	2.7
Expectacted duration per entry remaining:																
From birth	13.0	12.6	9.9	10.2	7.7	8.0	10.8	8.9	4.8	6.1	5.3	5.3	5.1	3.8	5.4	6.2
From age 25	29.4	29.1	22.1	22.5	15.9	14.6	22.5	25.8	6.8	8.6	8.0	8.0	7.6	5.4	7.6	10.3
Voluntary exits remaining:																
At birth	2.6	2.7	3.6	3.6	3.9	4.0	3.6	4.5	4.5	4.4	5.4	5.5	5.4	5.7	5.7	4.7
At age 25	1.6	1.7	2.3	2.3	2.4	2.7	2.3	2.2	3.3	3.3	3.9	3.8	3.7	3.8	4.0	3.6
Percent dying while active	36.3	27.0	27.4	26.7	31.7	23.0	28.6	34.0	10.8	9.5	10.4	9.7	14.6	8.0	11.2	12.4

[1]Population-based index.

[2]Years of work expected, if this level of education is attained.

[3]Ratio of worklife to life expectancy at the given age.

Stated differently, although minority men could expect to spend fewer years in the labor force, their additional periods of inactivity were more likely to occur during prime working ages.

The racial differentials in worklife expectancy were less distinct for women. At most ages, it was minority rather than white women who were the more likely to enter the job market, if inactive. (See table 5.) However, they were also the more likely to withdraw from economic activity.

One apparent difference by race involved the childrearing years. Neither black nor white women showed strong tendencies to withdraw from the job market to have children. However, the data pointed toward a "fertility trough," although weak, in the labor force attachment of white women. Contradicting the patterns observed at other ages, white women in their 30's showed a stronger propensity to leave the labor force than did their minority counterparts, and those 35 to 44 showed a stronger tendency to reenter. Although the timing of midlife labor force withdrawal differed by race, estimates of lifetime entries and exits for the two groups are surprisingly similar. (See table 4.) On balance, white women averaged 2.3 more years of worklife (29.7 years vs. 27.4 years), but this is largely a reflection of their greater longevity.

Education. The new tables reveal a clear and direct relationship between years of schooling and duration of labor force involvement. As noted earlier, the size of the differential is probably understated. There has been no attempt to estimate the impact of education on health and survival.

The mechanism whereby education affects worklife duration is probably occupational selection. Although the link between schooling and occupation is imperfect, many occupations are closed to persons who have not met minimum educational requirements. Therefore, breaking the population into three educational strata effectively breaks it into clusters of occupations for which certain levels of training may be necessary.

The new tables reveal a decided employment "payoff" for time spent in school. During the prime working ages, men with 15 or more years of schooling are roughly half as likely to leave the job market, if active, as are those without high school diplomas. (See table 4.) If inactive, their probability of labor force entry is approximately twice that of the least educated group. Over a lifetime, the most educated class of men averages slightly more entries and exits than do those without high school diplomas, but most of this turnover occurs relatively early, while many individuals are still in school. After age 25, these men can

Table 5. Rates of labor force accession and separation per 1,000 persons at risk, by sex, race, and years of schooling completed, 1979–80

Age	Men						Women					
	Total	Race		Years of schooling completed			Total	Race		Years of schooling completed		
		White	Black and other	Less than high school	High school to 14 years	15 years or more		White	Black and other	Less than high school	High school to 14 years	15 years or more
	Labor force accessions per 1,000 inactive men						Labor force accessions per 1,000 inactive women					
16–19	596.1	620.1	525.8	506.0	—	—	527.5	564.1	409.3	425.4	—	—
20–24	666.4	672.6	649.0	511.2	719.2	685.2	454.8	457.5	462.1	320.1	457.4	568.7
25–29	681.4	693.1	646.8	477.2	721.9	783.3	341.8	334.1	397.6	268.3	342.7	422.0
30–34	547.1	558.1	520.8	330.1	568.3	802.2	292.3	289.3	320.0	229.8	303.3	319.3
35–39	407.1	444.3	306.9	271.9	403.0	757.2	271.3	274.7	248.0	185.0	287.3	330.2
40–44	297.8	327.9	208.7	235.1	285.6	539.1	221.7	226.3	189.1	149.0	237.2	287.3
45–49	217.7	218.5	213.2	172.8	233.2	350.6	164.1	163.9	165.1	136.2	170.4	199.8
50–54	168.8	175.0	138.8	123.3	213.3	260.9	122.7	120.4	141.7	102.4	127.4	155.3
55–59	120.9	129.0	75.1	93.4	142.8	174.5	81.1	79.0	100.3	67.8	85.6	99.6
60–64	88.6	92.0	62.9	81.4	93.7	103.8	56.4	55.0	68.7	48.4	64.0	55.4
65–69	75.3	75.1	76.4	68.5	78.7	95.6	41.8	40.9	50.1	37.7	47.9	38.5
70–74	52.0	51.8	54.5	51.9	50.2	54.0	33.3	33.9	27.1	29.7	38.9	36.2
75 and over	3.9	4.2	1.0	4.7	3.7	1.2	3.1	3.2	2.2	2.6	4.1	3.7
	Labor force separations per 1,000 active men						Labor force separations per 1,000 active women					
16–19	277.6	262.9	429.2	277.6	—	—	354.8	335.6	523.2	436.5	—	—
20–24	120.8	112.5	186.3	143.9	107.5	170.4	227.6	218.8	289.8	360.5	228.1	190.7
25–29	56.6	52.6	89.8	90.9	50.9	60.1	183.8	184.0	184.4	300.3	191.9	153.3
30–34	36.7	33.5	65.0	58.4	38.8	30.9	154.5	157.0	140.7	247.3	160.3	121.4
35–39	30.0	27.7	52.0	52.4	30.0	21.8	128.5	129.1	124.8	190.0	133.0	94.9
40–44	30.8	28.6	49.7	51.3	27.3	25.0	111.2	109.8	119.8	157.1	114.4	76.3
45–49	36.5	34.1	56.1	50.4	35.0	28.3	109.7	109.1	112.8	145.8	114.3	70.5
50–54	50.1	48.3	66.8	69.2	48.4	36.4	114.7	113.8	122.6	153.2	111.6	88.5
55–59	98.9	96.3	127.2	133.6	91.8	71.2	151.5	149.9	166.1	192.0	140.0	139.3
60–64	232.5	227.5	286.5	295.3	225.6	160.8	253.5	252.4	262.8	275.8	249.4	238.6
65–69	337.9	332.4	386.7	405.0	325.2	246.2	339.4	333.2	393.9	352.3	335.4	322.7
70–74	381.8	380.3	374.2	443.1	367.6	277.2	384.5	377.4	428.0	417.1	380.3	317.4
75 and over	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0

anticipate fewer transitions in either direction.

Over a lifetime, the average man with 15 years of schooling or more can expect to work 6.5 years longer than his classmate who left high school before graduation (41.1 vs. 34.6). The same increment to education will have twice as much impact on the worklife duration of a woman, adding an average of 12.6 years to her economically active life (34.9 vs. 22.3 years).

Table 6 isolates the impact of education during three periods of the worklife cycle: the early and middle phases and the preretirement years. It displays the number of years the average person can be expected to work during each such phase, by sex and years of schooling completed.

At younger ages, education has a two-pronged effect on men: While failure to earn a high school diploma costs the individual about a year and a half of worklife between the ages of 20 and 39, remaining in school also imposes a cost in terms of forgone employment opportunities. However, among the group ages 40 to 59, the payoff from education is very evident. Those completing 15 years of school or more can expect to work 1 year longer than high school graduates, and 3 years longer than those who did not graduate. Even though higher education, with its greater compensation returns, may ease the financial strain of retirement, it seems to engender a sense of "career commitment" in many men which holds them in the labor force. (This is evident in the separation rates in table 5.) Examples of this phenomenon include self-employed career professionals such as attorneys and physicians, who are reputed to remain active long after most wage and salary workers have retired. An additional effect of schooling seems to be that—among those who have "retired," at least in terms of their principal job—the most educated are the most likely to return to work in some capacity, as reflected in accession rates. Finally, if educational attainment is positively correlated with good health and longevity, untreated health problems may discourage economic activity among the least educated, least

Table 6. Worklife expectancy of the population between specific ages,[1] by sex and years of schooling completed, 1979–80

Sex and years of schooling completed	Age		
	20 to 39	40 to 59	60 and over
Men, total	17.6	16.3	4.4
Less than high school	16.0	14.5	3.4
High school to 14 years	17.9	16.6	4.7
15 years or more	17.6	17.5	6.3
Women, total	13.1	11.8	3.0
Less than high school	9.5	8.8	2.3
High school to 14 years	13.1	11.8	3.4
15 years or more	14.0	14.7	3.5

[1]Computed using the difference in workyears remaining at ages 20, 40, and 60, divided by survivors to each initial age.

affluent groups, further widening the worklife gap associated with schooling. Thus, in the final phase of the work cycle, the most educated group remain active 1.6 years longer than high school graduates and 3 years longer than those who never finished high school.

The work patterns of women vary more widely than those of men. Consequently, education has a stronger potential impact on female worklife behavior than on that of males. The new tables show this effect to be the greatest during the prime working ages. Between the ages of 20 and 39, women face fundamental tradeoffs among schooling, childrearing, and employment. The opportunity costs of childrearing increase with job skills. During this phase of life, the woman with 15 years of schooling or more is likely to work nearly a year longer than the high school graduate, and 4.5 years longer than her classmate who left high school early. The differential remains, and in fact widens, throughout midlife. During the next 20 years of her life cycle, the highly educated woman is likely to work 2.9 years longer than the high school graduate, and 5.9 years longer than the nongraduate. The tables suggest that the relationship between education and retirement patterns is looser for women than for men. As with men, the most educated show the least inclination to retire early. (See table 5.) However, once they have done so, these women are less likely than men with comparable training to reverse their decision. (As evidence, compare accession rates of the most educated men and women in table 5.)

Conclusions

This latest worklife study, based on a larger sample of individuals than had been used previously, has enabled us to examine two new dimensions of worklife behavior. It has also provided more complete measures of movement into and out of the labor force than were previously possible.

During the period between 1977 and 1979–80, the worklife expectancy of adult men held relatively steady, while that of women continued to edge upward. For both sexes, there were indications that many retirement decisions were being reversed. However, because the model does not measure hours of labor force involvement, the workyears remaining to older persons may in fact be less "intense" now than they were at the beginning of the decade.

Race seems to have more bearing on the worklife patterns of men than of women. The tables confirmed that minority men are both more likely to leave the labor force and less likely to reenter than are whites. The racial differential for women affects timing of movement more than it does overall volume.

The more important factor affecting worklife patterns of women is educational attainment. Using the categories displayed here, we find that women appear to reap twice as much "payoff" from additional schooling as do men. Their additional training appears to drive up the opportunity costs of alternative activities, encouraging longer and more continuous careers for those who have pursued higher education.

Opportunity costs also appear to play an important role in the retirement process. For both sexes, higher education is associated with later retirement. Among the men who do retire, the most educated are most prone to reenter the work force. The swifter, more permanent retirement pattern of persons without high school diplomas may be due, in part, to health differentials by educational attainment, mentioned but not fully controlled for in this study. □

FOOTNOTES

[1] See Shirley J. Smith, "New worklife estimates reflect changing profile of labor force," *Monthly Labor Review*, March 1982, pp. 15–20; Shirley J. Smith, *Tables of Working Life: The Increment–Decrement Model*, Bulletin 2135 (Bureau of Labor Statistics, 1982); and Shirley J. Smith, *New Worklife Estimates*, Bulletin 2157 (Bureau of Labor Statistics, 1982).

[2] See David M. Nelson, "The use of worklife tables in estimates of lost earning capacity," *Monthly Labor Review*, April 1983, pp. 30–31; John L. Finch, "Worklife estimates should be consistent with known labor force participation," *Monthly Labor Review*, June 1982, pp. 34–36; Kenneth J. Boudreaux, "A further adjustment needed to estimate lost earning capacity," *Monthly Labor Review*, October 1983, pp. 30–31; and George C. Alter and William E. Becker, "Estimating lost future earnings using the new worklife tables," *Monthly Labor Review*, February 1985, pp. 39–42.

[3] We now estimate David Nelson's index of median years to final retirement. Following a suggestion by George Alter and William Becker, we also make assumptions of retirement beyond age 75 explicit. It is assumed that no one enters the labor force after age 75, and that remaining years of activity are proportional to the labor force participation rates of CPS respondents, age 76 to 78.

[4] The sample for 1979 included 56,000 potential households. It was temporarily expanded to 65,000 households in 1980, and now contains a potential of 60,000 units.

[5] Because many respondents appear in more than one of these monthly matches, the number of individuals included in the pooled sample is considerably less than 255,000.

[6] The multistate model is equipped to deal with a variety of different "transitions" simultaneously. It could incorporate data on moves between occupations, if those data were reliable. However, interoccupational mobility has proven difficult to measure accurately, and the number of categories involved would hopelessly fragment the sample. We hope eventually to develop a few occupational clusters, characterized by unique behavioral patterns. Only in this way can the model realistically control for occupation.

[7] National Center for Health Statistics, *Vital Statistics of the United States, 1979*, vol. II, section 6, "Life Tables," DHHS Publication No. (PHS)84–1101 (U.S. Government Printing Office, 1984); National Center for Health Statistics, *Vital Statistics of the United States, 1980*, vol. II, section 6, "Life Tables," DHHS Publication No. (PHS)84–1104 (U.S. Government Printing Office, 1984); and unpublished tables from the National Center for Health Statistics, Public Health Service.

[8] The internal calculations of the model now begin at age 13, when by definition all persons are outside the labor force. Entries and exits at 14 and 15 are recorded to yield a more complete count of the labor force at

exact age 16. This increased precision has had a minor impact on estimates of worklife values at birth and in the early teens, but the effect is imperceptible at later ages.

[9] Shirley J. Smith, "Labor force participation rates are not the relevant factor," *Monthly Labor Review*, June 1983, pp. 36–38.

[10] Although it would be useful to examine changes in the labor force entry and exit rates of older persons to learn more about the retirement process, the expanded sample has rendered such comparisons impossible. It captures far more gross movement than was evident in earlier tables. For all men, the 1977 study indicated an average of 3.0 labor force entries per lifetime; the 1979–80 tables set this average at 3.9. The earlier tables indicated an average of 2.7 voluntary withdrawals, while this set shows a figure of 3.6. The picture for women is quite similar. Lifetime entries were estimated at 4.5 in 1977. With the more sensitive modified sample, the estimate for 1979–80 was 5.5. Voluntary withdrawals were estimated at 4.4 per lifetime in 1977, 5.4 at the end of the decade.

Table A-1. Working life table for men, 1979-80

(Average years remaining)

Age	Life expectancy	Expectation of active and inactive life by current labor force status					
		Total population		Currently active in labor force		Currently inactive	
		Active years remaining	Inactive years remaining	Active years remaining	Inactive years remaining	Active years remaining	Inactive years remaining
x	$\cdot e^{\cdot}_{x}$	$\cdot e^{a}_{x}$	$\cdot e^{i}_{x}$	$_{a}e^{a}_{x}$	$_{a}e^{i}_{x}$	$_{i}e^{a}_{x}$	$_{i}e^{i}_{x}$
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
16	55.5	39.1	16.5	39.8	15.7	38.3	17.2
17	54.6	38.6	16.0	39.3	15.3	37.7	16.9
18	53.7	38.0	15.6	38.7	15.0	37.1	16.6
19	52.8	37.5	15.3	38.1	14.7	36.4	16.3
20	51.8	36.8	15.0	37.4	14.5	35.7	16.1
21	50.9	36.2	14.8	36.7	14.3	35.0	16.0
22	50.0	35.4	14.6	35.9	14.1	34.2	15.8
23	49.1	34.7	14.4	35.1	14.0	33.4	15.7
24	48.2	33.9	14.3	34.3	13.9	32.6	15.6
25	47.3	33.1	14.2	33.5	13.8	31.8	15.6
26	46.4	32.3	14.1	32.7	13.8	30.9	15.5
27	45.5	31.5	14.1	31.8	13.7	30.0	15.5
28	44.6	30.6	14.0	30.9	13.7	29.1	15.5
29	43.7	29.8	13.9	30.1	13.6	28.1	15.6
30	42.8	28.9	13.9	29.2	13.6	27.1	15.6
31	41.9	28.0	13.9	28.3	13.5	26.2	15.7
32	40.9	27.1	13.8	27.5	13.5	25.1	15.8
33	40.0	26.2	13.8	26.6	13.4	24.1	15.9
34	39.1	25.3	13.7	25.7	13.4	23.1	15.9
35	38.2	24.5	13.7	24.8	13.4	22.1	16.0
36	37.3	23.6	13.7	23.9	13.3	21.1	16.2
37	36.3	22.7	13.7	23.1	13.3	20.0	16.3
38	35.4	21.8	13.6	22.2	13.2	19.0	16.5
39	34.5	20.9	13.6	21.3	13.2	17.9	16.6
40	33.6	20.0	13.6	20.4	13.2	16.9	16.7
41	32.7	19.2	13.6	19.6	13.1	15.9	16.8
42	31.8	18.3	13.5	18.7	13.1	14.9	17.0
43	30.9	17.4	13.5	17.9	13.0	13.8	17.1
44	30.1	16.6	13.5	17.1	13.0	12.8	17.3
45	29.2	15.7	13.5	16.3	12.9	11.8	17.3
46	28.3	14.9	13.4	15.5	12.9	10.9	17.4
47	27.5	14.0	13.4	14.7	12.8	10.0	17.4
48	26.6	13.2	13.4	13.9	12.8	9.2	17.4
49	25.8	12.4	13.4	13.1	12.7	8.3	17.4
50	25.0	11.6	13.4	12.3	12.6	7.5	17.4
51	24.2	10.8	13.4	11.6	12.6	6.8	17.4
52	23.4	10.0	13.3	10.8	12.5	6.1	17.3
53	22.6	9.3	13.3	10.1	12.5	5.4	17.2
54	21.8	8.5	13.3	9.4	12.4	4.7	17.1
55	21.1	7.8	13.3	8.7	12.4	4.2	16.9
56	20.3	7.0	13.3	8.0	12.3	3.7	16.7
57	19.6	6.3	13.3	7.4	12.2	3.2	16.4
58	18.9	5.6	13.2	6.8	12.1	2.8	16.1
59	18.2	5.0	13.2	6.2	11.9	2.5	15.7
60	17.5	4.4	13.1	5.7	11.7	2.2	15.3
61	16.8	3.9	12.9	5.3	11.5	1.9	14.9
62	16.1	3.4	12.7	4.9	11.2	1.7	14.4
63	15.5	3.0	12.5	4.6	10.9	1.5	14.0
64	14.9	2.6	12.3	4.3	10.5	1.3	13.5
65	14.2	2.3	12.0	4.1	10.1	1.2	13.1
66	13.6	2.0	11.8	3.9	9.7	1.0	12.6
67	13.0	1.8	11.3	3.8	9.3	.8	12.2
68	12.5	1.6	10.9	3.6	8.9	.7	11.8
69	11.9	1.4	10.5	3.4	8.5	.5	11.4
70	11.4	1.2	10.2	3.2	8.1	.4	11.0
71	10.9	1.1	9.8	3.1	7.8	.3	10.5
72	10.4	.9	9.4	2.8	7.5	.2	10.1
73	9.9	.8	9.1	2.6	7.3	.1	9.7
74	9.4	.7	8.7	2.2	7.2	.1	9.3
75	9.0	.6	8.4	1.7	7.2	.0	8.9

Table A-1. Working life table for men, 1979-80—Continued

Age	Probability of transition between specified states during age interval x to x+1					Age-specific rates of transfer per 1,000 persons in initial status during age interval x to x+1		
	Living to dead [1]	Inactive to inactive	Inactive to active	Active to inactive	Active to active	Mortality	Labor force accession	Voluntary labor force separation
x	$\cdot p^d_x$	$_ip_x^i$	$_ip_x^a$	$_ap_x^i$	$_ap_x^a$	$\cdot m^d_x$	$_im_x^a$	$_am_x^i$
	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
16	0.00125	0.58327	0.41547	0.24193	0.75682	0.00126	0.61987	0.36095
17	.00148	.61255	.38597	.22043	.77808	.00149	.55491	.31692
18	.00165	.58417	.41418	.17233	.82602	.00165	.58722	.24433
19	.00177	.55755	.44068	.14453	.85370	.00177	.62430	.20475
20	.00189	.53996	.45815	.12034	.87777	.00189	.64607	.16970
21	.00200	.52949	.46851	.09781	.90019	.00200	.65514	.13678
22	.00206	.51802	.47991	.08162	.91632	.00207	.66891	.11376
23	.00208	.50424	.49369	.07061	.92731	.00208	.68945	.09861
24	.00205	.49876	.49919	.05970	.93825	.00205	.69448	.08305
25	.00202	.49823	.49976	.05036	.94763	.00202	.69103	.06963
26	.00197	.49443	.50360	.04307	.95496	.00197	.69466	.05942
27	.00193	.49646	.50161	.03856	.95950	.00194	.68879	.05296
28	.00191	.50542	.49267	.03544	.96265	.00191	.67094	.04827
29	.00189	.51674	.48136	.03253	.96557	.00190	.64926	.04388
30	.00189	.53604	.46208	.03072	.96740	.00189	.61451	.04085
31	.00189	.55614	.44197	.02889	.96922	.00189	.57933	.03787
32	.00191	.57943	.41866	.02643	.97166	.00191	.53967	.03407
33	.00197	.60220	.39584	.02460	.97343	.00197	.50232	.03122
34	.00204	.60975	.38821	.02371	.97425	.00204	.49003	.02993
35	.00214	.62305	.37481	.02390	.97396	.00215	.46926	.02992
36	.00227	.64356	.35417	.02347	.97426	.00227	.43772	.02901
37	.00241	.66643	.33115	.02198	.97561	.00242	.40324	.02676
38	.00259	.68823	.30918	.02177	.97564	.00259	.37154	.02616
39	.00280	.69788	.29933	.02188	.97533	.00280	.35769	.02614
40	.00303	.71431	.28266	.02185	.97512	.00303	.33453	.02585
41	.00330	.72803	.26867	.02300	.97371	.00330	.31567	.02702
42	.00361	.73243	.26396	.02398	.97241	.00362	.30956	.02812
43	.00396	.75201	.24403	.02400	.97204	.00397	.28301	.02783
44	.00436	.77257	.22307	.02365	.97199	.00437	.25565	.02711
45	.00479	.78558	.20963	.02427	.97094	.00481	.23861	.02762
46	.00528	.79375	.20098	.02573	.96900	.00529	.22795	.02918
47	.00582	.80000	.19418	.02686	.96732	.00584	.21966	.03039
48	.00643	.80836	.18521	.02844	.96513	.00645	.20878	.03206
49	.00711	.81562	.17727	.03011	.96278	.00714	.19928	.03385
50	.00785	.82354	.16861	.03141	.96074	.00788	.18891	.03519
51	.00869	.83046	.16085	.03310	.95821	.00873	.17977	.03699
52	.00947	.83629	.15424	.03561	.95492	.00952	.17213	.03974
53	.01030	.84550	.14419	.03912	.95057	.01036	.16048	.04354
54	.01118	.85423	.13459	.04347	.94534	.01125	.14949	.04829
55	.01211	.86009	.12780	.04883	.93906	.01218	.14198	.05425
56	.01313	.86565	.12122	.05923	.92764	.01322	.13510	.06601
57	.01429	.87491	.11080	.07528	.91043	.01439	.12402	.08426
58	.01563	.88392	.10045	.09089	.89349	.01575	.11293	.10218
59	.01712	.89177	.09111	.11200	.87066	.01727	.10327	.12694
60	.01875	.89889	.08236	.13982	.84143	.01893	.09453	.16048
61	.02046	.90128	.07825	.16430	.81523	.02068	.09103	.19114
62	.02227	.90159	.07615	.18554	.79220	.02252	.08975	.21867
63	.02414	.90324	.07262	.20784	.76802	.02444	.08671	.24817
64	.02612	.90474	.06914	.22803	.74585	.02647	.08356	.27559
65	.02820	.90426	.06754	.24122	.73058	.02860	.08239	.29425
66	.03043	.90424	.06533	.24890	.72267	.03090	.08005	.30255
67	.03293	.90585	.06142	.25232	.71475	.03348	.07554	.31033
68	.03577	.90603	.05820	.25232	.71191	.03642	.07167	.31072
69	.03893	.90693	.05414	.25343	.70764	.03970	.06679	.31282
70	.04236	.90871	.04891	.26038	.69724	.04330	.06062	.32276
71	.04603	.90957	.04440	.25985	.69532	.04711	.05505	.32073
72	.04979	.90948	.04073	.26201	.68820	.05106	.05070	.32619
73	.05369	.90651	.03990	.27557	.67084	.05507	.05028	.34723
74	.05750	.90943	.03307	.27990	.66270	.05920	.04179	.35356
75	.06161	.91349	.02478	.22977	.70650	.06357	.03037	.29162

[1] Mortality rates used are those of the general male population.

Table A-1. Working life table for men, 1979-80—Continued

Age	Stationary population living in each status at exact age x, per 100,000 persons born			Number of status transfers within stationary population during age interval x to x+1				
	Labor force status			Labor force entries	Voluntary labor force exits	Deaths by labor force status		
	Total	Active	Inactive			Total	Active	Inactive
x	$^{\circ}l_x$	$^{a}l_x$	$^{i}l_x$	$_{l}{}^{a}{}_{x}$	$_{a}l_{x}$	$_{\circ l}{}^{d}{}_{x}$	$_{a}l^{d}{}_{x}$	$_{i}l^{d}{}_{x}$
	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
16	97,823	46,923	50,900	28,496	18,694	123	65	58
17	97,700	56,660	41,040	21,827	18,474	145	87	58
18	97,555	59,926	37,629	20,534	15,272	161	103	58
19	97,394	65,085	32,309	18,645	13,609	172	119	53
20	97,222	69,801	27,421	16,354	12,188	183	136	48
21	97,039	73,833	23,206	13,992	10,338	194	151	43
22	96,845	77,335	19,510	12,016	8,962	200	163	37
23	96,644	80,226	16,418	10,466	8,023	201	169	32
24	96,443	82,499	13,944	8,967	6,930	198	171	26
25	96,246	84,366	11,880	7,818	5,927	194	172	22
26	96,052	85,885	10,167	6,582	5,140	189	171	19
27	95,863	87,137	8,726	5,655	4,637	185	170	16
28	95,678	87,985	7,693	4,931	4,259	183	169	14
29	95,495	88,489	7,006	4,384	3,890	181	168	13
30	95,314	88,815	6,499	3,906	3,631	180	168	12
31	95,134	88,922	6,212	3,544	3,366	180	168	12
32	94,954	88,930	6,024	3,201	3,030	181	170	11
33	94,773	88,932	5,841	2,900	2,776	186	175	11
34	94,587	88,882	5,705	2,767	2,659	193	181	12
35	94,394	88,808	5,586	2,625	2,654	202	190	12
36	94,192	88,589	5,603	2,470	2,566	214	201	13
37	93,977	88,292	5,685	2,301	2,359	227	213	14
38	93,751	88,022	5,729	2,153	2,298	243	228	15
39	93,508	87,649	5,859	2,122	2,286	261	245	17
40	93,247	87,241	6,006	2,041	2,249	283	264	19
41	92,963	86,767	6,196	2,005	2,336	306	285	21
42	92,658	86,152	6,506	2,064	2,413	334	310	24
43	92,324	85,493	6,831	1,984	2,369	366	338	28
44	91,957	84,768	7,189	1,885	2,288	401	369	32
45	91,556	83,997	7,559	1,853	2,308	439	402	37
46	91,118	83,141	7,977	1,875	2,412	481	437	43
47	90,637	82,166	8,471	1,917	2,481	528	477	51
48	90,109	81,125	8,984	1,937	2,582	579	520	60
49	89,530	79,961	9,569	1,971	2,685	637	566	71
50	88,893	78,680	10,213	1,992	2,744	696	615	83
51	88,195	77,314	10,881	2,020	2,833	767	669	98
52	87,429	75,833	11,596	2,065	2,981	828	714	114
53	86,601	74,203	12,398	2,089	3,190	892	759	134
54	85,709	72,323	13,386	2,090	3,440	959	801	157
55	84,749	70,171	14,578	2,168	3,741	1,026	840	186
56	83,724	67,759	15,965	2,283	4,374	1,089	876	223
57	82,624	64,791	17,833	2,376	5,298	1,181	905	276
58	81,443	60,963	20,480	2,491	6,002	1,273	925	347
59	80,170	56,527	23,643	2,836	6,849	1,373	932	441
60	78,798	51,383	27,415	2,800	7,773	1,477	917	561
61	77,321	45,493	31,828	3,095	8,130	1,582	879	703
62	75,736	39,578	36,160	3,415	8,056	1,686	830	857
63	74,052	34,107	39,945	3,604	7,843	1,788	772	1,016
64	72,264	29,096	43,168	3,713	7,411	1,888	712	1,176
65	70,376	24,686	45,690	3,830	6,739	1,985	655	1,330
66	68,391	21,121	47,270	3,812	5,971	2,081	610	1,471
67	66,310	18,351	47,959	3,627	5,340	2,184	576	1,607
68	64,126	16,062	48,064	3,428	4,707	2,294	552	1,742
69	61,833	14,232	47,601	3,152	4,202	2,407	534	1,874
70	59,426	12,649	46,777	2,806	3,834	2,518	514	2,004
71	56,908	11,107	45,801	2,496	3,348	2,619	491	2,128
72	54,288	9,756	44,532	2,220	2,982	2,703	467	2,236
73	51,585	8,528	43,057	2,123	2,772	2,764	440	2,325
74	48,821	7,439	41,382	1,885	2,428	2,807	407	2,400
75	46,013	6,298	39,715	1,176	1,854	2,835	373	2,462

Table A-1. Working life table for men, 1979-80—Continued

Age x	Person years lived in each status during age x			Person years lived in each status beyond exact age x		
	Total $^{\circ}L^{\circ}_{x}$	Active $^{\circ}L^{a}_{x}$	Inactive $^{\circ}L^{i}_{x}$	Total $^{\circ}T^{\circ}_{x}$	Active $^{\circ}T^{a}_{x}$	Inactive $^{\circ}T^{i}_{x}$
	(24)	(25)	(26)	(27)	(28)	(29)
16	97,782	51,792	45,970	5,430,730	3,820,429	1,610,301
17	97,628	58,293	39,335	5,332,968	3,768,638	1,564,330
18	97,475	62,506	34,969	5,235,340	3,710,345	1,524,995
19	97,308	67,443	29,865	5,137,865	3,647,839	1,490,026
20	97,130	71,817	25,313	5,040,557	3,580,395	1,460,162
21	96,941	75,583	21,358	4,943,427	3,508,578	1,434,849
22	96,744	78,780	17,964	4,846,486	3,432,995	1,413,491
23	96,544	81,363	15,181	4,749,742	3,354,215	1,395,527
24	96,345	83,433	12,912	4,653,198	3,272,852	1,380,346
25	96,149	85,125	11,024	4,556,853	3,189,419	1,367,434
26	95,958	86,511	9,447	4,460,704	3,104,293	1,356,411
27	95,770	87,560	8,210	4,364,746	3,017,782	1,346,964
28	95,586	88,237	7,349	4,268,976	2,930,222	1,338,754
29	95,404	88,651	6,753	4,173,390	2,841,985	1,331,405
30	95,224	88,868	6,356	4,077,986	2,753,334	1,324,652
31	95,044	88,926	6,118	3,982,762	2,664,465	1,318,297
32	94,864	88,932	5,932	3,887,718	2,575,539	1,312,179
33	94,680	88,907	5,773	3,792,854	2,486,608	1,306,246
34	94,490	88,844	5,646	3,698,174	2,397,701	1,300,473
35	94,293	88,698	5,595	3,603,684	2,308,856	1,294,828
36	94,084	88,440	5,644	3,509,391	2,220,158	1,289,233
37	93,864	88,157	5,707	3,415,307	2,131,718	1,283,589
38	93,629	87,835	5,794	3,321,443	2,043,561	1,277,882
39	93,377	87,444	5,933	3,227,814	1,955,726	1,272,088
40	93,105	87,004	6,101	3,134,437	1,868,282	1,266,155
41	92,811	86,460	6,351	3,041,332	1,781,278	1,260,054
42	92,490	85,821	6,669	2,948,521	1,694,818	1,253,703
43	92,140	85,130	7,010	2,856,031	1,608,997	1,247,034
44	91,757	84,383	7,374	2,763,891	1,523,867	1,240,024
45	91,337	83,569	7,768	2,672,134	1,439,484	1,232,650
46	90,877	82,653	8,224	2,580,797	1,355,915	1,224,882
47	90,373	81,646	8,727	2,489,920	1,273,261	1,216,659
48	89,820	80,543	9,277	2,399,547	1,191,615	1,207,932
49	89,212	79,321	9,891	2,309,727	1,111,072	1,198,655
50	88,545	77,998	10,547	2,220,515	1,031,751	1,188,764
51	87,812	76,573	11,239	2,131,970	953,753	1,178,217
52	87,015	75,018	11,997	2,044,158	877,180	1,166,978
53	86,155	73,263	12,892	1,957,143	802,161	1,154,982
54	85,229	71,247	13,982	1,870,988	728,898	1,142,090
55	84,237	68,965	15,272	1,785,759	657,651	1,128,108
56	83,174	66,275	16,899	1,701,522	588,686	1,112,836
57	82,034	62,877	19,157	1,618,348	522,411	1,095,937
58	80,807	58,745	22,062	1,536,314	459,533	1,076,781
59	79,484	53,955	25,529	1,455,507	400,788	1,054,719
60	78,059	48,437	29,622	1,376,023	346,833	1,029,190
61	76,529	42,535	33,994	1,297,964	298,396	999,568
62	74,895	36,842	38,053	1,221,435	255,861	965,574
63	73,158	31,601	41,557	1,146,540	219,019	927,521
64	71,320	26,891	44,429	1,073,382	187,417	885,965
65	69,384	22,903	46,481	1,002,062	160,527	841,535
66	67,351	19,736	47,615	932,678	137,624	795,054
67	65,218	17,207	48,011	865,327	117,887	747,440
68	62,980	15,147	47,833	800,109	100,681	699,428
69	60,629	13,440	47,189	737,129	85,533	651,596
70	58,166	11,878	46,288	676,500	72,093	604,407
71	55,597	10,431	45,166	618,334	60,216	558,118
72	52,936	9,142	43,794	562,737	49,784	512,953
73	50,203	7,983	42,220	509,801	40,642	469,159
74	47,417	6,869	40,548	459,598	32,659	426,939
75	44,596	5,873	38,723	412,181	25,791	386,390

Table A-2. Life and worklife expectancies for men by race, 1979-80

(Average years remaining)

Age	White men				Black and other men			
	Life expectancy [1]	Expectation of active life by labor force status			Life expectancy [1]	Expectation of active life by labor force status		
		Total	Currently active	Currently inactive		Total	Currently active	Currently inactive
x	$^{*}e^{*}_{x}$	$^{*}e^{a}_{x}$	$^{a}e^{a}_{x}$	$^{i}e^{a}_{x}$	$^{*}e^{*}_{x}$	$^{*}e^{a}_{x}$	$^{a}e^{a}_{x}$	$^{i}e^{a}_{x}$
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
16	56.1	39.9	40.6	39.1	51.4	33.6	34.3	33.2
17	55.2	39.4	40.0	38.4	50.4	33.2	33.9	32.7
18	54.3	38.8	39.4	37.8	49.5	32.8	33.5	32.2
19	53.3	38.2	38.8	37.1	48.6	32.4	33.0	31.7
20	52.4	37.5	38.1	36.4	47.6	31.9	32.4	31.1
21	51.5	36.9	37.4	35.6	46.8	31.3	31.8	30.4
22	50.6	36.1	36.6	34.9	45.9	30.7	31.1	29.7
23	49.7	35.4	35.8	34.1	45.0	30.0	30.4	29.0
24	48.8	34.6	35.0	33.2	44.1	29.3	29.7	28.3
25	47.9	33.8	34.2	32.4	43.3	28.6	28.9	27.5
26	47.0	32.9	33.3	31.5	42.4	27.9	28.2	26.6
27	46.1	32.1	32.4	30.6	41.5	27.1	27.4	25.8
28	45.2	31.2	31.6	29.7	40.7	26.4	26.6	25.0
29	44.2	30.3	30.7	28.7	39.8	25.6	25.8	24.1
30	43.3	29.5	29.8	27.7	39.0	24.8	25.0	23.2
31	42.4	28.6	28.9	26.7	38.1	24.0	24.2	22.3
32	41.4	27.7	28.0	25.7	37.2	23.2	23.4	21.3
33	40.5	26.8	27.1	24.7	36.4	22.3	22.7	20.3
34	39.6	25.9	26.2	23.7	35.5	21.5	21.9	19.3
35	38.6	25.0	25.3	22.7	34.7	20.7	21.1	18.2
36	37.7	24.1	24.4	21.7	33.8	19.9	20.4	17.1
37	36.8	23.2	23.5	20.7	33.0	19.1	19.6	16.0
38	35.9	22.3	22.6	19.6	32.2	18.4	18.9	15.0
39	34.9	21.4	21.7	18.6	31.3	17.6	18.1	14.2
40	34.0	20.5	20.9	17.5	30.5	16.8	17.4	13.4
41	33.1	19.6	20.0	16.4	29.7	16.0	16.7	12.6
42	32.2	18.7	19.1	15.4	28.9	15.3	16.0	11.9
43	31.3	17.8	18.3	14.3	28.1	14.5	15.2	11.1
44	30.4	16.9	17.4	13.2	27.3	13.8	14.5	10.4
45	29.5	16.1	16.6	12.1	26.5	13.1	13.8	9.7
46	28.6	15.2	15.8	11.2	25.8	12.4	13.1	8.9
47	27.8	14.4	14.9	10.3	25.0	11.6	12.4	8.1
48	26.9	13.5	14.1	9.4	24.3	10.9	11.7	7.3
49	26.1	12.7	13.4	8.6	23.5	10.2	11.0	6.5
50	25.2	11.9	12.6	7.8	22.8	9.5	10.4	5.7
51	24.4	11.1	11.8	7.1	22.1	8.8	9.7	4.9
52	23.6	10.3	11.1	6.3	21.5	8.1	9.1	4.3
53	22.8	9.5	10.3	5.6	20.8	7.4	8.4	3.7
54	22.0	8.7	9.6	5.0	20.2	6.8	7.8	3.2
55	21.3	8.0	8.9	4.4	19.5	6.1	7.2	2.8
56	20.5	7.2	8.2	3.8	18.9	5.5	6.6	2.5
57	19.7	6.5	7.5	3.3	18.3	4.9	6.0	2.2
58	19.0	5.8	6.9	2.9	17.7	4.3	5.6	1.9
59	18.3	5.2	6.3	2.5	17.1	3.7	5.1	1.6
60	17.6	4.5	5.8	2.2	16.5	3.3	4.7	1.6
61	16.9	4.0	5.4	2.0	15.9	2.9	4.4	1.5
62	16.2	3.5	5.0	1.8	15.4	2.5	4.1	1.4
63	15.6	3.1	4.7	1.5	14.9	2.2	3.8	1.3
64	14.9	2.7	4.4	1.3	14.3	2.0	3.6	1.2
65	14.3	2.3	4.2	1.2	13.8	1.8	3.5	1.1
66	13.7	2.1	4.0	1.0	13.3	1.6	3.4	1.0
67	13.1	1.8	3.8	.8	12.8	1.4	3.3	.9
68	12.5	1.6	3.6	.7	12.3	1.3	3.2	.7
69	11.9	1.4	3.5	.5	11.8	1.2	3.0	.6
70	11.4	1.2	3.3	.4	11.4	1.0	2.9	.4
71	10.9	1.1	3.1	.3	10.9	.9	2.7	.3
72	10.4	.9	2.9	.2	10.5	.7	2.6	.2
73	9.9	.8	2.6	.1	10.0	.6	2.3	.1
74	9.4	.7	2.3	.1	9.6	.5	1.8	.0
75	8.9	.6	1.8	.0	9.2	.3	1.3	.0

[1] Mortality rates used reflect racial differentials in survival.

Table A-3. Worklife expectancies for men by schooling completed, 1979-80

(Average years remaining)

Age	Life expectancy [1]	Expectation of active life by schooling completed and current labor force status								
		Less than high school			High school to 14 years			15 years or more of schooling		
		Total	Currently active	Currently inactive	Total	Currently active	Currently inactive	Total	Currently active	Currently inactive
x	$\cdot e^{\cdot}_{x}$	$\cdot e^{a}_{x}$	$_{a}e^{a}_{x}$	$_{i}e^{a}_{x}$	$\cdot e^{a}_{x}$	$_{a}e^{a}_{x}$	$_{i}e^{a}_{x}$	$\cdot e^{a}_{x}$	$_{a}e^{a}_{x}$	$_{i}e^{a}_{x}$
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
16	55.5	34.8	35.6	34.0	–	–	–	–	–	–
17	54.6	34.3	35.0	33.4	–	–	–	–	–	–
18	53.7	33.8	34.5	32.8	38.9	39.5	37.9	–	–	–
19	52.8	33.2	33.9	32.1	38.3	38.8	37.2	–	–	–
20	51.8	32.6	33.3	31.5	37.6	38.1	36.5	39.5	40.2	38.5
21	50.9	32.0	32.6	30.8	36.9	37.3	35.7	38.9	39.6	37.8
22	50.0	31.4	32.0	30.0	36.1	36.6	34.9	38.3	38.9	37.1
23	49.1	30.7	31.2	29.3	35.4	35.8	34.1	37.6	38.2	36.4
24	48.2	30.0	30.5	28.4	34.6	34.9	33.3	36.9	37.4	35.6
25	47.3	29.2	29.8	27.6	33.8	34.1	32.4	36.1	36.6	34.8
26	46.4	28.5	29.0	26.8	32.9	33.2	31.5	35.3	35.8	34.0
27	45.5	27.7	28.2	26.0	32.1	32.4	30.6	34.5	34.9	33.1
28	44.6	26.9	27.5	25.1	31.2	31.5	29.6	33.6	34.0	32.2
29	43.7	26.2	26.7	24.1	30.3	30.6	28.7	32.8	33.2	31.3
30	42.8	25.4	25.9	23.0	29.4	29.7	27.7	31.9	32.3	30.4
31	41.9	24.6	25.2	22.1	28.5	28.9	26.7	31.0	31.4	29.5
32	40.9	23.8	24.4	21.1	27.7	28.0	25.7	30.1	30.5	28.6
33	40.0	23.0	23.6	20.3	26.8	27.1	24.7	29.2	29.6	27.7
34	39.1	22.2	22.8	19.4	25.9	26.2	23.6	28.3	28.7	26.8
35	38.2	21.3	22.0	18.5	25.0	25.4	22.6	27.4	27.7	25.9
36	37.3	20.5	21.2	17.5	24.1	24.5	21.6	26.5	26.8	24.9
37	36.3	19.7	20.4	16.6	23.2	23.6	20.5	25.6	25.9	23.9
38	35.4	18.9	19.6	15.8	22.3	22.8	19.4	24.6	25.0	22.9
39	34.5	18.1	18.9	14.9	21.5	21.9	18.4	23.7	24.1	21.9
40	33.6	17.3	18.1	14.0	20.6	21.0	17.3	22.8	23.2	20.9
41	32.7	16.5	17.3	13.1	19.7	20.2	16.3	21.9	22.3	19.8
42	31.8	15.7	16.6	12.2	18.8	19.3	15.4	21.0	21.4	18.8
43	30.9	15.0	15.8	11.3	18.0	18.5	14.5	20.1	20.5	17.6
44	30.1	14.2	15.1	10.3	17.1	17.6	13.5	19.2	19.7	16.5
45	29.2	13.4	14.3	9.5	16.3	16.8	12.6	18.4	18.8	15.5
46	28.3	12.6	13.6	8.7	15.4	16.0	11.7	17.5	17.9	14.5
47	27.5	11.9	12.9	7.9	14.6	15.1	10.9	16.6	17.1	13.5
48	26.6	11.1	12.1	7.1	13.7	14.3	10.1	15.8	16.3	12.5
49	25.8	10.4	11.4	6.4	12.9	13.5	9.3	14.9	15.4	11.5
50	25.0	9.6	10.7	5.7	12.1	12.8	8.5	14.1	14.6	10.5
51	24.2	8.9	10.1	5.1	11.3	12.0	7.7	13.3	13.8	9.6
52	23.4	8.2	9.4	4.5	10.5	11.2	6.9	12.4	13.0	8.7
53	22.6	7.5	8.7	4.0	9.7	10.5	6.1	11.6	12.2	7.9
54	21.8	6.8	8.1	3.6	9.0	9.7	5.3	10.8	11.5	7.0
55	21.1	6.2	7.5	3.2	8.2	9.0	4.7	10.0	10.7	6.2
56	20.3	5.5	6.8	2.8	7.5	8.3	4.0	9.2	10.0	5.4
57	19.6	4.9	6.3	2.5	6.7	7.6	3.5	8.5	9.3	4.7
58	18.9	4.4	5.8	2.2	6.0	7.0	3.0	7.7	8.6	4.0
59	18.2	3.8	5.3	2.0	5.3	6.4	2.6	7.0	8.0	3.5
60	17.5	3.3	4.9	1.8	4.7	5.9	2.3	6.3	7.4	3.1
61	16.8	2.9	4.5	1.6	4.1	5.5	2.0	5.8	7.0	2.7
62	16.1	2.6	4.2	1.4	3.6	5.1	1.8	5.0	6.5	2.4
63	15.5	2.2	3.9	1.3	3.2	4.8	1.6	4.5	6.1	2.2
64	14.9	2.0	3.7	1.1	2.8	4.5	1.4	4.0	5.7	1.9
65	14.2	1.8	3.6	1.0	2.4	4.3	1.2	3.6	5.4	1.7
66	13.6	1.6	3.4	.8	2.2	4.1	1.0	3.2	5.1	1.4
67	13.0	1.4	3.3	.7	1.9	3.9	.9	2.8	4.9	1.2
68	12.5	1.2	3.2	.6	1.7	3.7	.7	2.5	4.6	.9
69	11.9	1.1	3.1	.5	1.5	3.6	.6	2.2	4.4	.7
70	11.4	1.0	2.9	.4	1.3	3.4	.4	1.9	4.1	.5
71	10.9	.9	2.8	.3	1.1	3.2	.3	1.7	3.9	.3
72	10.4	.8	2.6	.2	1.0	3.0	.2	1.4	3.6	.2
73	9.9	.7	2.3	.1	.8	2.7	.1	1.2	3.2	.1
74	9.4	.6	2.0	.1	.7	2.3	.1	1.0	2.7	.0
75	9.0	.5	1.6	.0	.6	1.8	.0	.9	2.2	.0

[1] Mortality rates used are those of the general male population.

Table A-4. Working life table for women, 1979-80

Age	Life expectancy	Expectation of active and inactive life by current labor force status					
		Total population		Currently active in labor force		Currently inactive	
		Active years remaining	Inactive years remaining	Active years remaining	Inactive years remaining	Active years remaining	Inactive years remaining
x	$^{\circ}e^{\cdot}_{x}$	$^{a}_{\circ}e^{\cdot}_{x}$	$^{i}_{\circ}e^{\cdot}_{x}$	$^{a}_{a}e^{a}_{x}$	$^{a}_{a}e^{i}_{x}$	$^{i}_{i}e^{a}_{x}$	$^{i}_{i}e^{i}_{xx}$
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
16	62.9	29.3	33.6	30.1	32.9	28.7	34.3
17	61.9	28.8	33.1	29.6	32.4	28.0	33.9
18	61.0	28.3	32.7	29.0	31.9	27.4	33.5
19	60.0	27.7	32.3	28.5	31.5	26.8	33.2
20	59.1	27.2	31.9	27.9	31.2	26.1	32.9
21	58.1	26.6	31.5	27.3	30.8	25.4	32.7
22	57.1	25.9	31.2	26.6	30.5	24.7	32.4
23	56.2	25.3	30.9	26.0	30.1	24.0	32.2
24	55.2	24.6	30.6	25.4	29.8	23.3	31.9
25	54.2	24.0	30.2	24.8	29.4	22.6	31.7
26	53.3	23.3	29.9	24.2	29.1	21.9	31.4
27	52.3	22.7	29.6	23.6	28.7	21.2	31.1
28	51.3	22.0	29.3	22.9	28.4	20.5	30.8
29	50.4	21.4	29.0	22.3	28.0	19.8	30.5
30	49.4	20.8	28.6	21.7	27.7	19.1	30.3
31	48.4	20.1	28.3	21.1	27.3	18.5	30.0
32	47.5	19.5	28.0	20.5	27.0	17.8	29.7
33	46.5	18.9	27.7	19.9	26.6	17.1	29.4
34	45.6	18.2	27.3	19.3	26.3	16.4	29.1
35	44.6	17.6	27.0	18.6	26.0	15.7	28.9
36	43.6	17.0	26.7	18.0	25.6	15.0	28.6
37	42.7	16.3	26.4	17.4	25.3	14.3	28.4
38	41.7	15.7	26.1	16.8	25.0	13.6	28.2
39	40.8	15.0	25.8	16.1	24.7	12.8	28.0
40	39.9	14.3	25.5	15.5	24.4	12.1	27.8
41	38.9	13.7	25.2	14.9	24.0	11.3	27.6
42	38.0	13.0	25.0	14.3	23.7	10.6	27.4
43	37.1	12.4	24.7	13.7	23.4	9.8	27.2
44	36.2	11.7	24.4	13.1	23.1	9.1	27.0
45	35.2	11.1	24.2	12.5	22.7	8.4	26.8
46	34.3	10.4	23.9	11.9	22.4	7.7	26.6
47	33.4	9.8	23.6	11.4	22.1	7.1	26.3
48	32.5	9.2	23.3	10.8	21.7	6.5	26.0
49	31.6	8.6	23.0	10.3	21.4	5.9	25.8
50	30.8	8.0	22.8	9.8	21.0	5.3	25.5
51	29.9	7.4	22.5	9.2	20.6	4.8	25.1
52	29.0	6.9	22.2	8.7	20.3	4.2	24.8
53	28.2	6.3	21.9	8.2	19.9	3.7	24.4
54	27.3	5.8	21.6	7.7	19.6	3.3	24.0
55	26.5	5.2	21.2	7.2	19.3	2.9	23.6
56	25.6	4.7	20.9	6.7	18.9	2.5	23.1
57	24.8	4.3	20.6	6.3	18.5	2.2	22.6
58	24.0	3.8	20.2	5.8	18.2	1.9	22.1
59	23.2	3.4	19.8	5.4	17.8	1.7	21.5
60	22.4	3.0	19.4	5.0	17.4	1.5	20.9
61	21.6	2.6	19.0	4.7	16.9	1.3	20.3
62	20.8	2.3	18.5	4.4	16.4	1.1	19.7
63	20.1	2.0	18.0	4.2	15.9	1.0	19.1
64	19.3	1.8	17.5	4.0	15.3	.9	18.4
65	18.5	1.5	17.0	3.8	14.8	.7	17.8
66	17.8	1.3	16.5	3.6	14.2	.6	17.2
67	17.1	1.2	15.9	3.4	13.7	.5	16.5
68	16.4	1.0	15.3	3.3	13.1	.4	15.9
69	15.6	.9	14.7	3.1	12.5	.4	15.3
70	14.9	.8	14.2	3.0	12.0	.3	14.7
71	14.3	.7	13.6	2.8	11.5	.2	14.1
72	13.8	.8	13.0	2.5	11.1	.1	13.5
73	13.0	.5	12.5	2.3	10.7	.1	12.9
74	12.3	.4	11.9	1.9	10.4	.0	12.3
75	11.7	.3	11.4	1.3	10.4	.0	11.7

Table A-4. Working life table for women, 1979-80—Continued

Age	Probability of transition between specified states during age interval x to x+1					Age-specific rates of transfer per 1,000 persons in initial status during age interval x to x+1		
	Living to dead [1]	Inactive to inactive	Inactive to active	Active to inactive	Active to active	Mortality	Labor force accession	Voluntary labor force separation
x	$_{*}p^{d}_{x}$	$_{i}p^{i}_{x}$	$_{i}p^{a}_{x}$	$_{a}p^{i}_{x}$	$_{a}p^{a}_{x}$	$_{*}m^{d}_{x}$	$_{i}m^{a}_{x}$	$_{a}m^{i}_{x}$
	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
16	0.00049	0.61018	0.38933	0.28459	0.71491	0.00050	0.58755	0.42949
17	.00055	.65845	.34099	.26841	.73104	.00056	.49076	.38629
18	.00059	.64144	.35797	.23074	.76867	.00059	.50766	.32722
19	.00060	.63368	.36572	.20738	.79202	.00060	.51297	.29088
20	.00061	.63680	.36259	.18972	.80967	.00061	.50129	.26230
21	.00061	.64831	.35107	.17552	.82387	.00062	.47689	.23842
22	.00063	.66119	.33818	.16606	.83330	.00063	.45252	.22223
23	.00063	.67430	.32506	.16070	.83866	.00064	.42966	.21241
24	.00065	.68760	.31175	.15478	.84458	.00065	.40890	.20202
25	.00065	.70299	.29636	.15125	.84810	.00065	.38210	.19501
26	.00066	.72078	.27856	.14873	.85061	.00066	.35450	.18928
27	.00067	.73299	.26634	.14524	.85408	.00068	.33561	.18302
28	.00069	.74023	.25907	.14177	.85754	.00070	.32427	.17744
29	.00071	.74635	.25293	.13723	.86205	.00072	.31449	.17063
30	.00074	.75314	.24612	.13210	.86716	.00074	.30377	.16304
31	.00078	.75892	.24030	.12835	.87087	.00078	.29485	.15749
32	.00082	.76180	.23738	.12560	.87358	.00083	.29028	.15359
33	.00088	.76361	.23551	.12275	.87637	.00089	.28718	.14968
34	.00096	.76461	.23443	.11881	.88023	.00098	.28503	.14445
35	.00104	.76619	.23277	.11391	.88505	.00104	.28190	.13795
36	.00113	.76868	.23018	.10946	.88941	.00114	.27761	.13201
37	.00124	.77131	.22745	.10516	.89360	.00124	.27320	.12631
38	.00136	.77671	.22193	.10185	.89679	.00138	.26519	.12170
39	.00150	.78183	.21668	.09963	.89887	.00150	.25781	.11855
40	.00164	.78829	.21006	.09588	.90248	.00165	.24844	.11339
41	.00181	.79688	.19931	.09400	.90419	.00181	.23403	.11037
42	.00199	.80930	.18870	.09349	.90452	.00200	.22018	.10908
43	.00219	.81786	.17995	.09227	.90554	.00219	.20879	.10706
44	.00241	.82627	.17133	.09170	.90589	.00241	.19779	.10587
45	.00264	.83618	.16118	.09184	.90552	.00264	.18505	.10544
46	.00289	.84626	.15085	.09282	.90429	.00289	.17231	.10603
47	.00317	.85365	.14318	.09341	.90342	.00318	.16294	.10630
48	.00348	.85986	.13666	.09416	.90236	.00349	.15506	.10684
49	.00383	.86586	.13031	.09540	.90077	.00383	.14749	.10798
50	.00420	.87081	.12499	.09559	.90021	.00421	.14111	.10793
51	.00460	.87724	.11816	.09571	.89969	.00461	.13298	.10789
52	.00500	.88611	.10889	.09721	.89778	.00502	.12204	.10898
53	.00541	.89298	.10161	.09686	.89574	.00542	.11358	.11050
54	.00582	.89906	.09512	.10214	.89204	.00584	.10618	.11402
55	.00626	.90683	.08691	.10767	.88607	.00628	.09692	.12006
56	.00675	.91411	.07914	.11771	.87554	.00677	.08841	.13150
57	.00732	.92034	.07235	.13001	.86268	.00734	.08112	.14577
58	.00798	.92604	.06598	.13999	.85203	.00801	.07417	.15739
59	.00873	.93092	.06034	.15487	.83839	.00877	.06825	.17517
60	.00957	.93455	.05588	.17659	.81384	.00962	.06387	.20187
61	.01045	.93696	.05259	.19807	.79148	.01050	.06060	.22900
62	.01135	.94034	.04831	.21678	.77187	.01141	.05638	.25298
63	.01224	.94323	.04452	.23010	.75765	.01232	.05230	.27029
64	.01316	.94441	.04243	.24102	.74582	.01325	.05015	.28486
65	.01414	.94589	.03997	.25100	.73486	.01424	.04750	.29829
66	.01524	.94766	.03710	.26416	.72059	.01536	.04441	.31624
67	.01653	.94926	.03421	.27815	.70532	.01667	.04126	.33566
68	.01807	.94989	.03205	.28106	.70088	.01823	.03876	.33990
69	.01983	.94944	.03073	.28043	.69974	.02003	.03719	.33941
70	.02178	.94908	.02915	.28233	.69560	.02201	.03536	.34250
71	.02388	.94821	.02791	.29093	.68520	.02416	.03409	.35533
72	.02614	.94677	.02709	.29783	.67604	.02648	.03330	.36601
73	.02857	.94515	.02629	.29908	.67235	.02898	.03240	.36868
74	.03121	.94350	.02530	.29590	.67289	.03170	.03120	.36488
75	.03411	.94430	.02157	.34984	.61603	.03470	.02752	.44644

[1] Mortality rates used are those of the general female population.

Table A-4. Working life table for women, 1979-80—Continued

Age	Stationary population living in each status at exact age x, per 100,000 persons born			Number of status transfers within stationary population during age interval x to x+1				
	Labor force status			Labor force entries	Voluntary labor force exits	Deaths by labor force status		
	Total	Active	Inactive			Total	Active	Inactive
x	$^{\cdot}l_x$	$^{a}l_x$	$^{i}l_x$	$^{i}l^{a}{}_x$	$^{a}l^{i}{}_x$	$_{\cdot}l^{d}{}_x$	$^{a}l^{d}{}_x$	$^{i}l^{d}{}_x$
	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
16	98,357	42,096	56,261	30,133	20,207	49	23	25
17	98,308	51,999	46,309	22,270	20,435	55	29	25
18	98,253	53,804	44,449	21,671	18,173	58	33	25
19	98,196	57,270	40,926	20,195	17,103	59	35	24
20	98,137	60,326	37,811	18,381	16,116	59	37	22
21	98,078	62,555	35,523	16,580	15,087	60	39	21
22	98,017	64,007	34,010	15,188	14,317	61	40	21
23	97,956	64,839	33,117	14,150	13,805	62	41	21
24	97,894	65,143	32,751	13,296	13,169	63	42	21
25	97,831	65,229	32,602	12,492	12,696	64	42	21
26	97,767	64,982	32,785	11,713	12,245	65	43	22
27	97,702	64,407	33,295	11,252	11,739	66	43	23
28	97,636	63,876	33,760	10,994	11,303	68	44	24
29	97,568	63,522	34,046	10,720	10,826	70	45	24
30	97,499	63,371	34,128	10,359	10,331	72	47	25
31	97,427	63,353	34,074	10,035	9,978	76	49	27
32	97,351	63,360	33,991	9,847	9,736	80	52	28
33	97,271	63,419	33,852	9,690	9,502	86	56	30
34	97,184	63,550	33,634	9,534	9,200	93	61	32
35	97,091	63,823	33,268	9,307	8,833	101	67	34
36	96,990	64,231	32,759	9,018	8,508	110	73	37
37	96,880	64,668	32,212	8,723	8,197	120	81	40
38	96,760	65,114	31,646	8,335	7,943	132	89	43
39	96,628	65,416	31,212	8,009	7,764	144	98	46
40	96,484	65,584	30,920	7,650	7,440	159	108	51
41	96,325	65,665	30,660	7,176	7,238	174	119	56
42	96,151	65,485	30,666	6,782	7,118	192	130	62
43	95,959	65,019	30,940	6,498	6,930	210	142	68
44	95,749	64,445	31,304	6,238	6,785	230	154	76
45	95,519	63,743	31,776	5,940	6,673	252	167	85
46	95,266	62,842	32,424	5,660	6,603	275	180	95
47	94,991	61,719	33,272	5,494	6,497	301	194	107
48	94,690	60,522	34,168	5,369	6,400	330	209	121
49	94,360	59,282	35,078	5,244	6,330	361	225	136
50	93,999	57,971	36,028	5,147	6,187	395	241	154
51	93,604	56,688	36,916	4,968	6,033	431	258	172
52	93,174	55,365	37,809	4,880	5,948	466	274	192
53	92,706	53,823	38,885	4,482	5,856	501	287	214
54	92,207	52,162	40,045	4,320	5,843	537	299	237
55	91,670	50,340	41,330	4,082	5,915	574	309	264
56	91,096	48,197	42,899	3,881	6,167	615	318	297
57	90,481	45,593	44,888	3,737	6,426	662	324	338
58	89,819	42,580	47,239	3,595	6,451	717	328	388
59	89,102	39,395	49,707	3,484	6,599	778	331	448
60	88,325	35,950	52,375	3,439	6,877	845	328	518
61	87,479	32,184	55,295	3,450	6,935	914	318	596
62	86,565	28,381	58,184	3,356	6,716	983	303	679
63	85,582	24,717	60,865	3,242	6,237	1,048	284	764
64	84,534	21,437	63,097	3,206	5,712	1,112	266	847
65	83,422	18,666	64,756	3,104	5,216	1,180	249	931
66	82,242	16,305	65,937	2,948	4,823	1,254	234	1,020
67	80,988	14,195	66,793	2,769	4,446	1,339	221	1,118
68	79,650	12,297	67,353	2,612	3,922	1,439	210	1,229
69	78,211	10,777	67,434	2,501	3,460	1,551	204	1,347
70	76,660	9,614	67,046	2,358	3,127	1,669	201	1,468
71	74,991	8,644	66,347	2,246	2,917	1,790	198	1,592
72	73,201	7,775	65,426	2,159	2,709	1,913	196	1,717
73	71,287	7,029	64,258	2,059	2,478	2,036	195	1,842
74	69,251	6,415	62,836	1,935	2,248	2,161	195	1,966
75	67,090	5,906	61,184	1,665	2,425	2,288	189	2,100

Table A-4. Working life table for women, 1979-80—Continued

Age x	Person years lived in each status during age x			Person years lived in each status beyond exact age x		
	Total ${}^{\circ}L^{\circ}_{x}$	Active ${}^{\circ}L^{a}_{x}$	Inactive ${}^{\circ}L^{i}_{x}$	Total ${}^{\circ}T^{\circ}_{x}$	Active ${}^{\circ}T^{a}_{x}$	Inactive ${}^{\circ}T^{i}_{x}$
	(24)	(25)	(26)	(27)	(28)	(29)
16	98,333	47,048	51,285	6,188,267	2,880,000	3,308,267
17	98,281	52,902	45,379	6,089,934	2,832,952	3,256,982
18	98,225	55,537	42,688	5,991,653	2,780,050	3,211,603
19	98,166	58,798	39,368	5,893,428	2,724,513	3,168,915
20	98,107	61,440	36,667	5,795,262	2,665,715	3,129,547
21	98,047	63,281	34,766	5,697,155	2,604,275	3,092,880
22	97,986	64,423	33,563	5,599,108	2,540,994	3,058,114
23	97,925	64,991	32,934	5,501,122	2,476,572	3,024,550
24	97,862	65,185	32,677	5,403,197	2,411,581	2,991,616
25	97,799	65,105	32,694	5,305,335	2,346,395	2,958,940
26	97,735	64,695	33,040	5,207,536	2,281,290	2,926,246
27	97,669	64,141	33,528	5,109,801	2,216,595	2,893,206
28	97,603	63,700	33,903	5,012,132	2,152,454	2,859,678
29	97,534	63,447	34,087	4,914,529	2,088,754	2,825,775
30	97,463	63,362	34,101	4,816,995	2,025,307	2,791,688
31	97,389	63,356	34,033	4,719,532	1,961,945	2,757,587
32	97,311	63,389	33,922	4,622,143	1,898,588	2,723,555
33	97,227	63,484	33,743	4,524,832	1,835,199	2,689,633
34	97,138	63,687	33,451	4,427,605	1,771,715	2,655,890
35	97,041	64,027	33,014	4,330,467	1,708,028	2,622,439
36	96,935	64,449	32,486	4,233,426	1,644,001	2,589,425
37	96,820	64,891	31,929	4,136,491	1,579,552	2,556,939
38	96,694	65,265	31,429	4,039,671	1,514,661	2,525,010
39	96,556	65,490	31,066	3,942,977	1,449,396	2,493,581
40	96,404	65,614	30,790	3,846,421	1,383,906	2,462,515
41	96,238	65,575	30,663	3,750,017	1,318,291	2,431,726
42	96,055	65,252	30,803	3,653,779	1,252,716	2,401,063
43	95,854	64,732	31,122	3,557,724	1,187,465	2,370,259
44	95,634	64,094	31,540	3,461,870	1,122,733	2,339,137
45	95,392	63,293	32,099	3,366,236	1,058,638	2,307,598
46	95,129	62,281	32,848	3,270,844	995,346	2,275,498
47	94,840	61,120	33,720	3,175,715	933,065	2,242,650
48	94,525	59,902	34,623	3,080,875	871,945	2,208,930
49	94,180	58,627	35,553	2,986,350	812,043	2,174,307
50	93,802	57,330	36,472	2,892,170	753,416	2,138,754
51	93,389	56,027	37,362	2,798,368	696,086	2,102,282
52	92,941	54,594	38,347	2,704,979	640,060	2,064,919
53	92,457	52,992	39,465	2,612,038	585,466	2,026,572
54	91,938	51,251	40,687	2,519,581	532,474	1,987,107
55	91,383	49,268	42,115	2,427,643	481,223	1,946,420
56	90,789	46,895	43,894	2,336,260	431,955	1,904,305
57	90,150	44,086	46,064	2,245,471	385,060	1,860,411
58	89,461	40,988	48,473	2,155,321	340,973	1,814,348
59	88,713	37,672	51,041	2,065,860	299,986	1,765,874
60	87,902	34,067	53,835	1,977,147	262,313	1,714,834
61	87,022	30,282	56,740	1,889,245	228,248	1,660,999
62	86,074	26,549	59,525	1,802,223	197,964	1,604,259
63	85,058	23,077	61,981	1,716,149	171,415	1,544,734
64	83,978	20,051	63,927	1,631,091	148,338	1,482,753
65	82,832	17,485	65,347	1,547,113	128,286	1,418,827
66	81,615	15,250	66,365	1,464,281	110,801	1,353,480
67	80,319	13,246	67,073	1,382,666	95,551	1,287,115
68	78,930	11,537	67,393	1,302,347	82,305	1,220,042
69	77,435	10,196	67,239	1,223,417	70,767	1,152,650
70	75,825	9,129	66,696	1,145,982	60,572	1,085,410
71	74,096	8,210	65,886	1,070,157	51,443	1,018,714
72	72,244	7,402	64,842	996,061	43,233	952,828
73	70,269	6,722	63,547	923,817	35,831	887,986
74	68,170	6,161	62,009	853,548	29,109	824,439
75	65,946	5,432	60,514	785,378	22,948	762,430

Table A-5. Life and worklife expectancies for women by race, 1979-80

(Average years remaining)

Age	White women				Black and other women			
	Life expectancy [1]	Expectation of active life by labor force status			Life expectancy [1]	Expectation of active life by labor force status		
		Total	Currently active	Currently inactive		Total	Currently active	Currently inactive
x	$^{\circ}e^{\circ}_{x}$	$^{\circ}e^{a}_{x}$	$^{a}e^{a}_{x}$	$^{i}e^{a}_{x}$	$^{\circ}e^{\circ}_{x}$	$^{\circ}e^{a}_{x}$	$^{a}e^{a}_{x}$	$^{i}e^{a}_{x}$
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
16	63.4	29.6	30.3	28.9	59.7	27.8	28.6	27.3
17	62.5	29.1	29.8	28.2	58.7	27.5	28.4	26.9
18	61.5	28.5	29.2	27.6	57.7	27.1	28.0	26.5
19	60.5	27.9	28.6	27.0	56.8	26.7	27.6	26.1
20	59.6	27.3	28.0	26.3	55.8	26.3	27.1	25.5
21	58.6	26.7	27.4	25.5	54.8	25.8	26.6	25.0
22	57.6	26.0	26.7	24.8	53.9	25.3	26.1	24.3
23	56.7	25.4	26.1	24.1	52.9	24.7	25.5	23.7
24	55.7	24.7	25.5	23.3	52.0	24.2	24.9	23.0
25	54.7	24.1	24.9	22.6	51.0	23.5	24.3	22.3
26	53.8	23.4	24.2	21.9	50.1	22.9	23.7	21.6
27	52.8	22.8	23.6	21.2	49.2	22.3	23.1	20.9
28	51.8	22.1	23.0	20.6	48.2	21.6	22.5	20.2
29	50.9	21.5	22.4	19.9	47.3	21.0	21.8	19.4
30	49.9	20.8	21.8	19.2	46.3	20.3	21.2	18.7
31	48.9	20.2	21.2	18.6	45.4	19.7	20.5	17.9
32	48.0	19.6	20.6	17.9	44.5	19.0	19.9	17.2
33	47.0	19.0	20.0	17.2	43.5	18.3	19.3	16.5
34	46.0	18.3	19.4	16.6	42.6	17.7	18.6	15.7
35	45.1	17.7	18.7	15.9	41.7	17.0	18.0	15.0
36	44.1	17.0	18.1	15.2	40.7	16.3	17.4	14.2
37	43.1	16.4	17.5	14.4	39.8	15.7	16.8	13.5
38	42.2	15.8	16.9	13.7	38.9	15.0	16.2	12.8
39	41.2	15.1	16.2	12.9	38.0	14.4	15.6	12.1
40	40.3	14.4	15.6	12.2	37.1	13.8	15.0	11.4
41	39.3	13.8	15.0	11.4	36.2	13.1	14.5	10.7
42	38.4	13.1	14.3	10.6	35.3	12.5	13.9	10.1
43	37.5	12.4	13.7	9.9	34.5	11.9	13.4	9.5
44	36.5	11.8	13.1	9.2	33.6	11.3	12.8	8.9
45	35.6	11.1	12.5	8.4	32.7	10.8	12.3	8.3
46	34.7	10.5	12.0	7.8	31.9	10.2	11.7	7.7
47	33.8	9.9	11.4	7.1	31.1	9.6	11.2	7.1
48	32.9	9.2	10.9	6.5	30.2	9.0	10.6	6.6
49	32.0	8.6	10.3	5.9	29.4	8.5	10.1	6.0
50	31.1	8.0	9.8	5.3	28.6	7.9	9.5	5.5
51	30.2	7.4	9.3	4.7	27.8	7.4	9.0	4.9
52	29.3	6.9	8.8	4.2	27.0	6.8	8.5	4.4
53	28.4	6.3	8.3	3.7	26.2	6.3	8.0	3.9
54	27.6	5.8	7.8	3.3	25.5	5.7	7.5	3.5
55	26.7	5.3	7.3	2.9	24.7	5.2	7.0	3.0
56	25.9	4.7	6.8	2.5	23.9	4.7	6.5	2.7
57	25.0	4.3	6.3	2.2	23.2	4.2	6.1	2.3
58	24.2	3.8	5.9	1.9	22.4	3.8	5.6	2.0
59	23.4	3.4	5.4	1.7	21.7	3.4	5.2	1.8
60	22.6	3.0	5.1	1.5	21.0	3.0	4.8	1.5
61	21.8	2.6	4.7	1.3	20.3	2.6	4.5	1.3
62	21.0	2.3	4.4	1.2	19.6	2.3	4.2	1.1
63	20.2	2.0	4.2	1.0	19.0	2.0	3.9	1.0
64	19.4	1.8	4.0	.9	18.3	1.7	3.7	.8
65	18.7	1.5	3.8	.8	17.7	1.5	3.4	.7
66	17.9	1.4	3.6	.6	17.0	1.3	3.2	.6
67	17.2	1.2	3.5	.5	16.4	1.1	3.0	.5
68	16.4	1.0	3.3	.5	15.7	.9	2.9	.4
69	15.7	.9	3.2	.4	15.1	.8	2.8	.3
70	15.0	.8	3.0	.3	14.5	.7	2.7	.2
71	14.3	.7	2.8	.2	13.9	.6	2.6	.2
72	13.6	.6	2.6	.2	13.4	.5	2.6	.1
73	13.0	.5	2.3	.1	12.9	.5	2.3	.1
74	12.3	.4	1.9	.0	12.3	.4	1.9	.0
75	11.7	.3	1.3	.0	11.8	.4	1.4	.0

[1] Mortality rates used reflect racial differentials in survival.

Table A-6. Worklife expectancies for women by schooling completed, 1979-80

(Average years remaining)

Age	Life expectancy [1]	Expectation of active life by schooling completed and current labor force status								
		Less than high school			High school to 14 years			15 years or more of schooling		
		Total	Currently active	Currently inactive	Total	Currently active	Currently inactive	Total	Currently active	Currently inactive
x	$^{\circ}e^{\circ}_{x}$	$^{\circ}e^{a}_{x}$	$^{a}e^{a}_{x}$	$^{i}e^{a}_{x}$	$^{\circ}e^{a}_{x}$	$^{a}e^{a}_{x}$	$^{i}e^{a}_{x}$	$^{\circ}e^{a}_{x}$	$^{a}e^{a}_{x}$	$^{i}e^{a}_{x}$
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
16	62.9	22.1	22.8	21.5	–	–	–	–	–	–
17	61.9	21.6	22.3	20.9	–	–	–	–	–	–
18	61.0	21.1	21.9	20.4	28.9	29.6	27.9	–	–	–
19	60.0	20.7	21.5	19.9	28.3	29.0	27.3	–	–	–
20	59.1	20.2	21.1	19.4	27.7	28.4	26.5	31.6	32.2	30.3
21	58.1	19.7	20.6	18.9	27.0	27.8	25.8	30.9	31.4	29.6
22	57.1	19.3	20.2	18.4	26.4	27.2	25.1	30.1	30.7	28.9
23	56.2	18.8	19.8	17.9	25.7	26.5	24.4	29.4	30.0	28.1
24	55.2	18.4	19.4	17.4	25.1	25.9	23.7	28.7	29.3	27.3
25	54.2	17.9	18.9	17.0	24.4	25.3	23.0	27.9	28.6	26.4
26	53.3	17.4	18.5	16.5	23.8	24.7	22.3	27.2	27.9	25.6
27	52.3	17.0	18.1	16.0	23.2	24.1	21.6	26.5	27.2	24.8
28	51.3	16.5	17.7	15.5	22.5	23.5	21.0	25.7	26.5	24.0
29	50.4	16.1	17.2	15.0	21.9	22.9	20.3	25.0	25.9	23.2
30	49.4	15.6	16.8	14.5	21.3	22.3	19.6	24.3	25.2	22.4
31	48.4	15.1	16.4	14.0	20.6	21.7	19.0	23.6	24.5	21.7
32	47.5	14.7	16.0	13.4	20.0	21.1	18.3	22.9	23.8	20.9
33	46.5	14.2	15.6	12.9	19.4	20.4	17.6	22.2	23.1	20.2
34	45.6	13.7	15.2	12.4	18.8	19.8	17.0	21.5	22.4	19.5
35	44.6	13.3	14.8	11.9	18.1	19.2	16.3	20.8	21.7	18.8
36	43.6	12.8	14.4	11.3	17.5	18.6	15.6	20.1	21.0	18.0
37	42.7	12.3	14.0	10.7	16.8	17.9	14.9	19.3	20.2	17.2
38	41.7	11.8	13.5	10.2	16.2	17.3	14.1	18.6	19.5	16.4
39	40.8	11.4	13.1	9.7	15.5	16.7	13.4	17.9	18.7	15.5
40	39.9	10.9	12.7	9.1	14.9	16.0	12.6	17.1	18.0	14.7
41	38.9	10.4	12.3	8.6	14.2	15.4	11.8	16.4	17.3	13.8
42	38.0	9.9	11.8	8.1	13.5	14.8	11.1	15.6	16.5	12.9
43	37.1	9.5	11.4	7.6	12.9	14.2	10.3	14.8	15.8	12.0
44	36.2	9.0	11.0	7.1	12.2	13.6	9.6	14.1	15.1	11.1
45	35.2	8.5	10.5	6.6	11.6	13.0	8.9	13.3	14.4	10.1
46	34.3	8.1	10.0	6.1	10.9	12.4	8.2	12.6	13.7	9.3
47	33.4	7.6	9.6	5.6	10.3	11.9	7.5	11.8	13.0	8.5
48	32.5	7.1	9.1	5.2	9.7	11.4	6.9	11.1	12.3	7.8
49	31.6	6.7	8.7	4.7	9.1	10.8	6.3	10.4	11.6	7.1
50	30.8	6.2	8.3	4.2	8.5	10.3	5.7	9.7	10.9	6.4
51	29.9	5.7	7.9	3.8	7.9	9.8	5.1	8.9	10.2	5.7
52	29.0	5.3	7.5	3.4	7.3	9.3	4.6	8.2	9.6	5.0
53	28.2	4.9	7.1	3.0	6.8	8.8	4.1	7.6	9.0	4.4
54	27.3	4.4	6.7	2.7	6.2	8.3	3.6	6.9	8.3	3.9
55	26.5	4.0	6.3	2.4	5.7	7.7	3.2	6.2	7.8	3.4
56	25.6	3.6	5.9	2.1	5.2	7.2	2.8	5.6	7.2	2.9
57	24.8	3.3	5.5	1.8	4.7	6.7	2.5	5.0	6.7	2.4
58	24.0	2.9	5.2	1.6	4.2	6.3	2.2	4.5	6.3	2.1
59	23.2	2.6	4.9	1.4	3.8	5.8	1.9	3.9	5.8	1.8
60	22.4	2.3	4.6	1.3	3.3	5.4	1.7	3.5	5.4	1.6
61	21.6	2.1	4.3	1.1	2.9	5.0	1.5	3.0	5.1	1.4
62	20.8	1.8	4.1	1.0	2.6	4.7	1.3	2.6	4.8	1.2
63	20.1	1.6	3.9	.9	2.3	4.4	1.1	2.3	4.6	1.0
64	19.3	1.4	3.7	.8	2.0	4.2	1.0	2.0	4.3	.9
65	18.5	1.2	3.5	.6	1.8	4.0	.9	1.8	4.1	.8
66	17.8	1.1	3.3	.6	1.6	3.8	.7	1.6	4.0	.7
67	17.1	1.0	3.1	.5	1.4	3.7	.6	1.4	3.8	.6
68	16.4	.8	3.0	.4	1.2	3.5	.5	1.2	3.7	.5
69	15.6	.7	2.9	.3	1.1	3.4	.4	1.1	3.6	.4
70	14.9	.6	2.7	.2	1.0	3.2	.3	1.0	3.5	.3
71	14.3	.5	2.5	.2	.9	3.0	.3	.9	3.3	.3
72	13.6	.5	2.3	.1	.7	2.8	.2	.8	3.0	.2
73	13.0	.4	2.0	.1	.7	2.5	.1	.7	2.7	.1
74	12.3	.3	1.7	.0	.6	2.1	.1	.6	2.3	.1
75	11.7	.2	1.2	.0	.5	1.5	.0	.5	1.6	.0

[1] Mortality rates used are those of the general female population.

Table B-1. Labor force accession rates by sex, age, race, and schooling completed, 1979-80

(Annual rate per 1,000 population)

Sex and age	Total	Race		Years of schooling completed		
		White	Black and other	Less than high school	High school to 14 years	15 years or more
	(1)	(2)	(3)	(4)	(5)	(6)
Men						
16-19	229.4	223.1	277.7	209.8	–	–
20-24	127.8	120.7	176.0	131.6	112.3	165.1
25-29	60.9	57.1	89.3	82.8	53.0	71.3
30-34	34.4	32.0	54.8	49.6	34.6	32.8
35-39	24.9	23.8	36.0	40.8	25.2	19.9
40-44	21.6	20.4	30.9	37.7	19.6	17.4
45-49	21.2	19.3	35.3	30.7	20.7	17.7
50-54	23.5	23.1	27.6	28.8	26.0	18.6
55-59	29.2	29.8	24.7	34.3	29.5	24.2
60-64	44.5	44.9	39.1	50.9	43.9	36.2
65-69	54.8	54.1	60.8	54.8	55.9	55.4
70-74	42.9	42.6	45.1	44.7	40.9	38.6
75+	3.6	3.8	.9	4.4	3.3	1.1
Women						
16-19	239.9	238.5	254.0	222.3	–	–
20-24	158.4	152.0	198.3	168.5	153.6	141.9
25-29	117.1	114.8	131.6	141.9	120.2	108.4
30-34	101.7	102.4	98.0	119.8	106.4	88.2
35-39	89.6	91.4	77.9	94.2	94.1	80.7
40-44	71.5	71.9	67.3	75.9	74.7	61.4
45-49	58.4	57.9	62.7	69.2	60.3	45.4
50-54	50.8	49.9	58.2	55.4	52.2	42.9
55-59	41.7	40.7	50.1	43.1	42.1	40.7
60-64	38.8	38.1	45.6	37.0	42.4	35.3
65-69	34.7	34.0	41.2	32.5	38.9	31.5
70-74	29.8	30.3	24.7	27.1	34.3	31.9
75+	3.0	3.1	2.1	2.5	3.8	3.5

Table B-2. Total labor force separation rates by sex, age, race, and schooling completed, 1979-80

(Annual rate per 1,000 population)

Sex and age	Total	Race		Years of schooling completed		
		White	Black and other	Less than high school	High school to 14 years	15 years or more
	(1)	(2)	(3)	(4)	(5)	(6)
Men						
16-19	170.8	168.3	202.5	162.5	–	–
20-24	97.6	92.3	135.7	106.8	90.8	129.4
25-29	51.6	48.3	77.4	75.1	47.1	54.6
30-34	34.4	31.5	58.1	49.7	36.5	29.6
35-39	28.2	26.2	45.9	44.5	28.1	21.3
40-44	28.6	26.8	42.3	43.1	25.4	24.2
45-49	32.9	31.1	46.8	41.4	31.9	26.8
50-54	43.1	41.9	53.5	53.1	42.5	33.8
55-59	75.0	74.1	85.3	84.6	72.8	61.3
60-64	115.8	116.4	108.4	110.7	120.0	104.7
65-69	91.8	93.0	79.0	80.8	94.3	103.6
70-74	66.9	67.1	64.9	60.8	68.2	79.0
75+	78.8	82.5	48.3	68.1	85.8	120.4
Women						
16-19	193.5	193.7	198.5	208.3	–	–
20-24	148.4	148.1	165.5	170.7	151.5	143.2
25-29	120.9	120.8	123.3	141.5	124.5	114.0
30-34	100.7	101.4	97.6	118.4	104.1	87.9
35-39	86.0	86.2	85.6	93.3	89.4	71.7
40-44	75.3	74.9	77.2	77.0	78.4	61.5
45-49	70.6	70.6	70.0	71.7	73.9	54.4
50-54	67.2	66.6	72.2	70.3	65.9	62.6
55-59	73.6	72.6	83.0	69.9	71.2	82.5
60-64	79.0	77.9	88.2	64.8	84.3	86.7
65-69	57.3	55.9	70.0	48.8	62.9	58.5
70-74	40.1	40.0	37.9	36.7	44.8	37.8
75+	41.3	41.2	44.7	29.8	56.9	59.9

Table B-3. Voluntary labor force separation rates by sex, age, race, and schooling completed, 1979-80

(Annual rate per 1,000 population)

Sex and age	Total	Race		Years of schooling completed		
		White	Black and other	Less than high school	High school to 14 years	15 years or more
	(1)	(2)	(3)	(4)	(5)	(6)
Men						
16-19	169.8	167.3	201.8	161.6	–	–
20-24	96.0	90.7	133.7	105.3	89.1	127.8
25-29	49.8	46.7	74.5	73.5	45.3	52.6
30-34	32.6	30.0	54.6	48.0	34.7	27.8
35-39	25.9	24.2	41.3	42.4	25.8	18.9
40-44	25.2	23.9	36.2	40.0	22.0	20.6
45-49	27.6	26.2	38.0	36.6	26.6	21.3
50-54	34.9	34.3	40.7	45.8	34.1	25.0
55-59	64.1	63.7	70.6	75.5	61.4	48.9
60-64	104.9	105.5	97.0	102.4	108.2	90.3
65-69	82.8	84.0	70.7	74.2	84.7	89.6
70-74	58.1	58.4	55.3	53.9	58.9	64.7
75+	72.5	75.9	44.5	62.7	78.9	110.8
Women						
16-19	193.2	193.4	198.3	208.1	–	–
20-24	148.0	145.7	164.9	170.4	151.1	142.7
25-29	120.4	120.4	122.5	141.2	124.1	113.5
30-34	100.2	101.0	96.6	118.0	103.5	87.3
35-39	85.2	85.4	84.0	92.7	86.6	70.8
40-44	74.0	73.7	74.9	76.1	77.0	59.9
45-49	68.6	68.9	66.6	70.1	71.8	52.0
50-54	64.3	64.0	67.4	68.0	62.9	58.9
55-59	70.1	69.3	77.3	67.2	67.5	78.1
60-64	75.5	74.7	82.6	62.2	80.5	82.6
65-69	54.5	53.3	65.9	46.5	59.8	55.5
70-74	37.4	37.3	34.8	34.4	41.7	34.7
75+	39.7	39.5	43.0	28.6	54.6	57.5

Table B-4. Net labor force mobility rates by sex, age, race, and schooling completed, 1979-80

(Annual rate per 1,000 population)

Sex and age	Total	Race		Years of schooling completed		
		White	Black and other	Less than high school	High school to 14 years	15 years or more
	(1)	(2)	(3)	(4)	(5)	(6)
Men						
16-19	58.6	54.8	75.2	47.3	–	–
20-24	30.1	28.4	40.2	24.8	21.5	35.7
25-29	9.3	8.8	12.0	7.7	5.8	16.7
30-34	.0	.4	-3.3	.0	-1.9	3.2
35-39	-3.3	-2.4	-9.8	-3.7	-2.9	-1.4
40-44	-7.0	-6.4	-11.4	-5.4	-5.8	-6.7
45-49	-11.8	-11.8	-11.5	-10.7	-11.2	-9.2
50-54	-19.6	-18.8	-25.8	-24.3	-16.5	-15.3
55-59	-45.9	-44.3	-60.6	-50.3	-43.3	-37.1
60-64	-71.4	-71.4	-69.3	-59.8	-78.1	-68.5
65-69	-37.0	-39.0	-18.1	-26.0	-38.5	-48.2
70-74	-24.0	-24.4	-19.8	-16.0	-27.2	-40.3
75+	-75.2	-78.6	-47.4	-63.8	-82.4	-119.4
Women						
16-19	46.4	44.8	55.4	14.0	–	–
20-24	10.0	5.9	32.8	-2.2	2.1	-1.2
25-29	-3.8	-6.0	8.3	.3	-4.3	-5.6
30-34	.9	1.0	.3	1.4	2.4	.3
35-39	3.6	5.3	-7.7	.9	4.8	8.9
40-44	-3.8	-2.9	-9.9	-1.2	-3.7	-.1
45-49	-12.2	-12.7	-7.3	-2.5	-13.5	-9.0
50-54	-16.4	-16.7	-14.0	-14.9	-13.7	-19.6
55-59	-31.9	-31.8	-32.9	-26.8	-29.1	-41.8
60-64	-40.2	-39.9	-42.6	-27.9	-41.9	-51.4
65-69	-22.6	-21.9	-28.8	-16.4	-23.9	-27.0
70-74	-10.3	-9.7	-13.2	-9.6	-10.5	-5.9
75+	-38.3	-38.1	-42.6	-27.3	-53.0	-56.5

Table B-5. Labor force accessions per 1,000 persons alive at beginning of age interval by sex, age, race, and schooling completed, 1979-80

Sex and age	Total	Race		Years of schooling completed		
		White	Black and other	Less than high school	High school to 14 years	15 years or more
	(1)	(2)	(3)	(4)	(5)	(6)
Men						
16-19	914.9	889.9	1,108.0	836.7	–	–
20-24	635.8	600.7	874.4	654.8	558.9	821.4
25-29	302.9	284.0	443.1	411.8	263.5	354.7
30-34	171.2	159.3	271.5	246.9	172.0	163.1
35-39	123.7	116.3	177.9	202.8	125.5	99.0
40-44	107.0	101.4	152.0	186.7	97.3	86.5
45-49	104.3	95.1	172.2	151.6	102.2	87.3
50-54	115.2	113.1	133.2	140.8	127.1	90.8
55-59	141.1	144.4	117.3	165.8	142.6	117.0
60-64	211.0	213.7	181.9	241.6	208.2	171.9
65-69	253.6	250.6	276.6	253.7	258.5	256.2
70-74	190.7	189.9	198.0	199.0	182.0	171.8
75+	3.4	3.6	.9	4.1	3.1	1.0
Women						
16-19	958.4	952.9	1,014.9	888.4	–	–
20-24	790.7	758.9	989.2	841.3	766.9	708.6
25-29	584.4	573.3	656.3	708.1	600.2	540.9
30-34	507.3	511.3	488.1	597.7	531.2	440.2
35-39	446.9	456.0	387.6	469.6	469.1	402.2
40-44	356.0	358.3	333.6	377.7	371.7	305.6
45-49	290.1	287.5	309.4	343.4	299.4	225.4
50-54	251.0	247.0	285.5	273.9	257.9	212.2
55-59	204.8	200.5	244.0	211.8	207.1	199.8
60-64	189.0	185.6	219.3	180.1	208.4	171.7
65-69	167.0	163.8	195.2	156.1	187.2	151.6
70-74	140.3	142.8	113.9	127.5	161.5	149.9
75+	2.8	2.9	2.0	2.4	3.6	3.3

Table B-8. Total labor force separations per 1,000 persons alive at beginning of age interval by sex, age, race, and schooling completed, 1979-80

Sex and age	Total	Race		Years of schooling completed		
		White	Black and other	Less than high school	High school to 14 years	15 years or more
	(1)	(2)	(3)	(4)	(5)	(6)
Men						
16-19	681.1	671.3	807.9	648.2	–	–
20-24	485.8	459.3	674.4	531.5	451.9	643.6
25-29	256.6	240.3	383.8	373.7	234.5	271.7
30-34	171.3	157.1	287.8	247.1	181.5	147.4
35-39	140.3	130.3	226.5	221.2	139.9	105.8
40-44	141.8	133.1	208.0	213.5	126.1	119.8
45-49	162.4	153.4	228.4	204.4	157.5	132.4
50-54	210.9	205.4	257.6	259.6	207.8	165.5
55-59	362.8	359.0	404.9	408.8	352.0	296.5
60-64	549.8	553.5	504.1	525.4	569.3	497.0
65-69	424.6	431.3	359.1	374.0	436.4	479.3
70-74	297.5	298.8	284.8	270.4	303.2	351.2
75+	73.7	77.1	45.2	63.7	80.1	112.5
Women						
16-19	773.1	773.9	793.4	832.4	–	–
20-24	740.7	729.6	825.5	852.1	756.3	714.8
25-29	603.4	603.1	614.8	706.3	621.6	568.9
30-34	502.7	506.2	486.3	590.9	519.2	438.6
35-39	429.0	429.7	425.7	465.0	445.9	357.6
40-44	374.8	372.8	382.7	383.5	390.0	306.2
45-49	350.5	350.7	345.5	355.9	366.5	270.2
50-54	332.2	329.7	354.2	347.3	325.6	309.1
55-59	361.8	357.0	403.9	343.4	350.0	405.3
60-64	384.7	380.1	423.8	315.7	410.4	421.9
65-69	275.5	269.4	331.3	234.7	302.2	281.4
70-74	188.7	188.5	174.7	172.6	210.8	177.9
75+	39.0	38.8	42.1	28.1	53.6	56.5

Table B-7. Labor force accessions per 1,000 inactive persons by sex, age, race, and schooling completed, 1979-80

Sex and age	Total	Race		Years of schooling completed		
		White	Black and other	Less than high school	High school to 14 years	15 years or more
	(1)	(2)	(3)	(4)	(5)	(6)
Men						
16-19	596.1	620.1	525.8	506.0	-	-
20-24	666.4	672.6	649.0	511.2	719.6	685.2
25-29	681.4	693.1	646.8	477.2	721.9	783.3
30-34	547.1	558.1	520.6	330.1	568.3	802.2
35-39	407.1	444.3	306.9	271.9	403.0	757.2
40-44	297.8	327.9	208.7	235.1	285.6	539.1
45-49	217.7	218.5	213.2	172.8	233.2	350.8
50-54	168.8	175.0	138.8	123.3	213.3	260.9
55-59	120.9	129.0	75.1	93.4	142.8	174.5
60-64	86.6	92.0	62.9	81.4	93.7	103.8
65-69	75.3	75.1	76.4	66.5	78.7	95.6
70-74	52.0	51.8	54.5	51.9	50.2	54.0
75+	3.9	4.2	1.0	4.7	3.7	1.2
Women						
16-19	527.5	564.1	409.3	425.4	-	-
20-24	454.8	457.5	462.1	320.1	457.4	568.3
25-29	341.8	334.1	397.6	268.3	342.7	422.0
30-34	292.3	289.3	320.0	229.8	303.3	319.3
35-39	271.3	274.7	248.0	185.0	287.3	330.2
40-44	221.7	226.3	189.1	149.0	237.2	287.3
45-49	164.1	163.9	165.1	136.2	170.4	199.8
50-54	122.7	120.4	141.7	102.4	127.4	155.3
55-59	81.1	79.0	100.3	67.8	85.8	99.6
60-64	56.4	55.0	68.7	48.4	64.0	55.4
65-69	41.8	40.9	50.1	37.7	47.9	38.5
70-74	33.3	33.9	27.1	29.7	38.9	38.2
75+	3.1	3.2	2.2	2.6	4.1	3.7

Table B-8. Total labor force separations per 1,000 active persons by sex, age, race, and schooling completed, 1979-80

Sex and age	Total	Race		Years of schooling completed		
		White	Black and other	Less than high school	High school to 14 years	15 years or more
	(1)	(2)	(3)	(4)	(5)	(6)
Men						
16-19	277.6	262.9	429.2	277.6	-	-
20-24	120.9	112.5	186.3	143.9	107.6	170.4
25-29	56.6	52.6	89.8	90.9	50.9	60.1
30-34	36.7	33.5	65.0	58.4	38.8	30.9
35-39	30.0	27.7	52.0	52.4	30.0	21.8
40-44	30.8	28.6	49.7	51.3	27.3	25.0
45-49	36.5	34.1	56.1	50.4	35.0	28.3
50-54	50.1	48.3	66.8	69.2	48.4	36.4
55-59	98.9	96.3	127.2	133.6	91.8	71.2
60-64	232.5	227.5	286.5	295.3	225.6	160.8
65-69	337.9	332.4	386.7	405.0	325.2	246.2
70-74	381.8	380.3	374.2	443.1	367.6	277.2
75+	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0
Women						
16-19	354.8	335.6	523.2	436.5	-	-
20-24	227.6	216.8	289.8	360.5	228.1	190.8
25-29	183.8	184.0	184.4	300.3	191.9	153.3
30-34	154.5	157.0	140.7	247.3	160.3	121.4
35-39	128.5	129.1	124.8	190.0	133.0	94.9
40-44	111.2	109.8	119.8	157.1	114.4	78.3
45-49	109.7	109.1	112.8	145.8	114.3	70.5
50-54	114.7	113.8	122.6	153.2	111.8	86.5
55-59	151.5	149.9	166.1	192.0	140.0	139.3
60-64	253.5	252.4	262.8	275.8	249.4	238.6
65-69	339.4	333.2	393.9	352.3	335.4	322.7
70-74	384.5	377.4	426.0	417.1	380.3	317.4
75+	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0

Table B-9. Remaining labor force accessions per person entering age interval by sex, age, race, and schooling completed, 1979-80

Sex and age	Total	Race		Years of schooling completed		
		White	Black and other	Less than high school	High school to 14 years	15 years or more
	(1)	(2)	(3)	(4)	(5)	(6)
Men						
16-19	3.0	2.9	3.7	3.4	–	–
20-24	2.1	2.1	2.6	2.6	2.0	2.2
25-29	1.5	1.5	1.8	2.0	1.5	1.4
30-34	1.2	1.2	1.4	1.6	1.2	1.1
35-39	1.1	1.1	1.1	1.3	1.1	.9
40-44	1.0	.9	1.0	1.2	.9	.8
45-49	.9	.9	.8	1.0	.9	.7
50-54	.8	.8	.7	.9	.8	.7
55-59	.7	.7	.6	.8	.7	.6
60-64	.6	.6	.6	.6	.6	.5
65-69	.4	.4	.4	.4	.4	.4
70-74	.2	.2	.2	.2	.2	.2
75+	.0	.0	.0	.0	.0	.0
Women						
16-19	4.8	4.7	5.0	5.1	–	–
20-24	3.8	3.8	4.0	4.2	3.9	3.4
25-29	3.0	3.0	3.1	3.3	3.2	2.7
30-34	2.5	2.5	2.4	2.6	2.6	2.2
35-39	2.0	2.0	1.9	2.1	2.1	1.7
40-44	1.5	1.5	1.6	1.6	1.6	1.4
45-49	1.2	1.2	1.3	1.2	1.3	1.1
50-54	.9	.9	1.0	.9	1.0	.8
55-59	.7	.7	.7	.6	.7	.6
60-64	.5	.5	.5	.5	.5	.5
65-69	.3	.3	.3	.3	.4	.3
70-74	.2	.2	.1	.1	.2	.2
75+	.0	.0	.0	.0	.0	.0

Table B-10. Remaining voluntary labor force separations per person entering age interval by sex, age, race, and schooling completed, 1979-80

Sex and age	Total	Race		Years of schooling completed		
		White	Black and other	Less than high school	High school to 14 years	15 years or more
	(1)	(2)	(3)	(4)	(5)	(6)
Men						
16-19	3.4	3.4	3.8	3.8	–	–
20-24	2.8	2.7	3.0	3.2	2.7	2.8
25-29	2.3	2.3	2.4	2.7	2.3	2.2
30-34	2.1	2.1	2.0	2.4	2.1	2.0
35-39	1.9	2.0	1.8	2.2	1.9	1.9
40-44	1.8	1.9	1.6	2.0	1.8	1.8
45-49	1.7	1.8	1.5	1.8	1.8	1.7
50-54	1.7	1.7	1.4	1.7	1.7	1.7
55-59	1.6	1.6	1.3	1.5	1.6	1.6
60-64	1.3	1.4	1.1	1.2	1.4	1.5
65-69	.9	1.0	.7	.8	1.0	1.2
70-74	.7	.7	.5	.6	.7	.9
75+	.1	.1	.0	.1	.1	.1
Women						
16-19	5.3	5.3	5.3	5.5	–	–
20-24	4.5	4.5	4.5	4.7	4.7	4.3
25-29	3.8	3.8	3.7	3.8	4.0	3.6
30-34	3.2	3.2	3.1	3.2	3.4	3.0
35-39	2.7	2.7	2.7	2.6	2.9	2.6
40-44	2.3	2.3	2.3	2.1	2.4	2.3
45-49	1.9	1.9	1.9	1.8	2.1	2.0
50-54	1.6	1.6	1.6	1.4	1.7	1.8
55-59	1.3	1.3	1.4	1.1	1.5	1.5
60-64	1.0	1.0	1.1	.8	1.2	1.2
65-69	.7	.7	.7	.6	.8	.8
70-74	.5	.5	.5	.4	.6	.6
75+	.0	.0	.0	.0	.1	.1

Technical Appendix

The current set of worklife tables is an update and extension of those published in 1982 in Bulletins 2135 and 2157. The basic methodology, detailed in Bulletin 2135, has not changed.

Data input. Multistate (increment-decrement) working life tables are derived from information about changes in the labor force status of individuals between two points in time, 12 months apart. The flows in question are outlined in figure 1.

Using data collected by the Current Population Survey (CPS), these flows are traced separately for each sex-race and sex-educational attainment cohort.[1] For the period 1979-80, responses of persons interviewed in two successive January, March, May, July, September, or November surveys have been compared over the 1-year interval to obtain counts of the streams noted in figure 1. Surviving respondents have been classified as "active" or "inactive" if their status was identical at the two reference points, and as "entrants" or "exits" if their status changed.[2] The number lost to reinterview through death has been estimated separately, using the standard mortality function q_x (here denoted ${}_{\cdot}p_x^d$). The National Center for Health Statistics publishes these rates annually. Because the reference period for labor force activity spans 2 calendar years, we have employed mortality rates which are averages of those published for 1979 and 1980.

Life table calculations are performed on single-year-of-age data. The reference period for events in these tables is that between two exact ages, denoted x and x+1. Survey data have a slightly different age reference: The average person claiming to be "x" years old is actually halfway between his x and x+1th birthdays, or x + ½ years of age. Before developing the life table functions, therefore, survey data must be recentered on the appropriate age interval. The exact age counts are derived from survey values as follows. Using the example of persons economically active at age "x":

$$\text{actives}_x = \frac{\text{actives}_{(x-½)} + \text{actives}_{(x+½)}}{2}$$

The subscripts refer to the age of persons at the beginning of the 1-year interval.

Transition probabilities (${}^1p_x^3$). These probabilities (shown for all men and all women in columns 8-12 of tables A-1 and A-4) indicate the likelihood that an individual of a given sex, age, labor force status (and—though not shown—race or educational attainment category) will be classified in each of three possible states 1 year later: Economically active, inactive, or dead. Since these outcomes exhaust all possibilities, the probabilities sum to unity. Within any demographic group for which a table has been calculated:

$${}^ip_x^i + {}^ip_x^a + {}^ip_x^d = 1$$

and

$${}^ap_x^a + {}^ap_x^i + {}^ap_x^d = 1.$$

Where:

- i = economically inactive (out of labor force)
- a = economically active (in the labor force)
- d = dead
- ${}^1p_x^2$ = the probability that a person of a given characteristic, age x and in status 1 at the beginning of the interval, will be in status 2 exactly 1 year later, at age x+1.

Differences in mortality risks associated with labor force status have not yet been adequately quantified. Therefore we have assumed those risks to be the same for all persons of a given age, whether in or out of the labor force. Thus:

$${}^ap_x^d = {}^ip_x^d = {}_{\cdot}p_x^d$$

Where:

- · = all persons of given characteristics alive at the beginning of the interval.

In the tables for all men, all women, and men and women by educational attainment, mortality rates have been assumed to vary by age and sex. No educational differentials have been introduced, owing to lack of data. However, the tables by race employ additional

[1] This information is collected from all age groups, 14 and above, and has been processed for ages 14 through 76.

[2] The data set used for this analysis does not facilitate a distinction between initial and subsequent labor force entries.

Figure 1. Labor force flows for each demographic group identified in the 1979-80 working life tables

State at time 1, age x	State at time 2, age x + 1			
	Total	In labor force	Not in labor force	Dead
In labor force	Group A	Actives	Exits	Deaths of actives
Not in labor force	Group B	Entrants	Inactives	Deaths of inactives

information on racial differentials in mortality, so that, for instance:

$$^{wm,\cdot\cdot}p_x^d \neq {}^{om,\cdot\cdot}p_x^d$$

Where:

$^{wm,\cdot\cdot}p_x^d$ = the death rate of all white males of a given age, regardless of labor force status

$^{om,\cdot\cdot}p_x^d$ = the death rate of all black and other males of a given age, regardless of labor force status

For each group tabulated, transition probabilities are computed as row percentages from age-adjusted tables like figure 1. For instance, the probability of entering the labor force over the year's interval beginning at age x is computed as:

$$^ip_x^a = \frac{\text{entrants}_x}{\text{Group B}_x}$$

Rates of transfer between statuses ($^1m_x^2$). These rates (which appear for total men and total women in columns 13-15 of tables A-1 and A-4) denote the number of tranfers from state 1 to state 2 during the interval from exact age x to exact age x+1, per thousand cohort members age x in the stationary population. As a ratio of events to population, these rates make allowance for the fact that a single individual may change his or her status repeatedly during any year. Transfer rates are computed from transition probabilities as follows:

$$^am_x^i = \frac{4 \times {}^ap_x^i}{(1 + {}^ap_x^a)(1 + {}^ip_x^i) - ({}^ap_x^i \times {}^ip_x^a)}$$

and so on. The probability of transition and the rate of transfer for a given age are positively related so that the higher the likelihood of changing status over a 1-year interval, the greater the rate of transfer and the larger the difference between their respective values.

The stationary population ($^\cdot l_x$), *inactive population* (^il_x), *and stationary labor force* (^al_x) at each exact age. These functions appear in columns 16-18 of the complete worklife tables, A-1 and A-4. They denote the number of persons of a give cohort who would remain in each labor force status at successive birthdays if 100,000 persons of the same sex and race or ultimate educational attainment, born at the same time, were "survived" until all persons had died, at each age experiencing the mortality and labor force probabilities observed in the base population during the reference year. The stationary population at any given age x is merely cohort survivors at the beginning of the previous age, multiplied by their probability of surviving that age:

$$^\cdot l_x = {}^\cdot l_{x-1} \times (1 - {}^\cdot p_{x-1}^d) .$$

Group-specific transfer rates are used to determine how many cohort members will be active or inactive at each successive age. For instance, the number of inactives at age x is equal to the stock of inactives in the cohort 1 year earlier, plus persons leaving the labor force at any time during the interval, minus all those entering the labor force, minus inactives who died:

$$^il_x = {}^il_{x-1} + ({}^al_{x-1} \times {}^am_{x-1}^i) - ({}^il_{x-1} \times {}^im_{x-1}^a) - ({}^il_{x-1} \times {}^im_{x-1}^d).$$

This function can be restated in terms of numbers who transferred between states 1 and 2, as observed only at those ages ($^1t_x^2$):

$$^il_x = {}^il_{x-1} + {}^at_{x-1}^i - {}^it_{x-1}^a - {}^it_{x-1}^d .$$

The number of such transfers is shown in columns 19-23 of the complete worklife tables, A-1 and A-4.

Remaining labor force entries ($^iE_x^a$) *and voluntary exits* ($^aE_x^i$) *per person.* The average number of labor force entries and exits remaining per person of a given age is computed by summing the relevant transfer values ($^it_x^a$ or $^at_x^i$) from that age to the end of the table and dividing the total by persons alive at the beginning of that age, $^\cdot l_x$. Comparative estimates for the 12 cohorts in question are shown in tables B-9 and B-10.

Expectation of life ($^\cdot e_x$), *and working life* ($^\cdot e_x^a$) *for all persons aged x.* The stationary population values shown in columns 16-18 of the complete tables can be read to represent a longitudinal history of a single birth cohort, showing the labor force status of survivors to each successive birthday.

Assuming that changes in status (i.e., deaths and labor force entries and exits) are evenly distributed throughout the year, the total number alive at mid-year

($\dot{L}_x$) should be precisely half the sum of those alive at the beginning and at the end of that interval:

$$\dot{L}_x = \frac{\dot{l}_x + \dot{l}_{x+1)}}{2} .$$

The number active or inactive at mid-year can be computed in analagous fashion. (These values by labor force status appear in columns 24-26 of tables A-1 and A-4). These figures are also referred to as the number of "person years" lived by the group in any status as it passes through the given age. Summing person years (of life, inactivity, or activity) from age x to the end of the table, and dividing the result by total persons alive at exact age x, we derive average years of life, inactivity, and activity remaining to be lived by those age x. For example, the average worklife expectancy is:

$$\dot{e}^a_x = \frac{\sum_{age=x}^{\infty} \dot{L}^a_x}{\dot{l}_x} = \frac{\dot{T}^a_x}{\dot{l}_x} .$$

Labor force status-specific expectations of active life ($^a\dot{e}^a_x$, $^i\dot{e}^a_x$) *and inactive life* ($^a\dot{e}^i_x$, $^i\dot{e}^i_x$). The expectancy functions for the population as a whole, above, were developed using a Markov chain calculation in which a specific cohort of individuals (i.e., those of a given sex, and race or educational attainment level, born at the same time) were traced through a lifetime of labor force entries and exits to quantify total average work duration. By the same token, it is possible to follow even more specific cohorts (e.g., those with a given set of characteristics who were in the labor force at a specific age) through their subsequent worklife experiences. The procedure is the same. At each age, survivors of the initial work status cohort are subjected to the transfer rates appropriate to their current age and status, to determine how many will enter the next age interval in each work status group. The resulting stationary population profile is translated into person years of activity and inactivity lived by the group in that age interval. These values are summed across ages, then averaged over persons of the relevant sex alive and in a given status at the initial age.

Given the 2 sexes, 2 labor force statuses, and 60 ages of interest, this entire procedure must be repeated 240 times to develop the expectancy figures shown in columns 4-7 of tables A-1 and A-4. It must be repeated another 1,200 times to provide the labor force status-specific detail by sex and race, and by sex and education, shown.

The expectancies are denoted $^a\dot{e}^a_x$ (years of activity remaining to persons currently active), $^i\dot{e}^a_x$ (years of activity remaining to persons currently inactive), and $^a\dot{e}^i_x$ and $^i\dot{e}^i_x$ for years of inactivity remaining for the same two groups.

Interpretation of worklife expectancy values. These tables measure movement into and out of the labor force, rather than flows into and out of employment. Hence measures of "worklife" actually include periods of unemployment.

These estimates in no way control for differences in hours worked by age, sex, race, or educational attainment. They simply summarize the number of years during which an average cohort member would be attached to the labor force (in whatever manner is characteristic for that group) if prevailing rates of mortality and labor force entry and exit remained in effect throughout his or her lifetime.

It is possible to quantify the proportion of each year of life spent in the labor force (controlling for the average effects of mortality and labor force separation) by computing the following ratio for each age group:

$$_{x+1}\dot{e}^a_x = \frac{\dot{L}^a_x}{\dot{l}_x}$$

Where:

$_{x+1}\dot{e}^a_x$ = the worklife expectancy from age x to x+1.

Modifications of the model. Treatment of the initial and terminal ages of the table has been modified slightly since the last publication to improve the precision of the estimates. Whereas the tables for 1977 recognized labor force entries to begin during age 15, the present set also rests on known entry patterns for persons age 14. This has had a very minor impact on worklife expectancies at birth, and none at all beyond the early teens.

For purposes of closure, it is now assumed that no one enters the labor force after age 75, and that person years of activity beyond that age are proportional to the labor force participation rate of CPS respondents age 76 to 78. (Given the number of groups being tabulated, it is no longer feasible to attempt estimation of actual labor force movements beyond age 75.) This modification has had a very minor impact on worklife values.

Additional detail. This publication includes only summary statistics on worklife expectancy by race and education. Full tables for various groups are available upon request from: Division of Data Development and Users' Services, Office of Employment and Unemployment Statistics, Bureau of Labor Statistics, 441 G St. NW., Washington, D.C. 20212.

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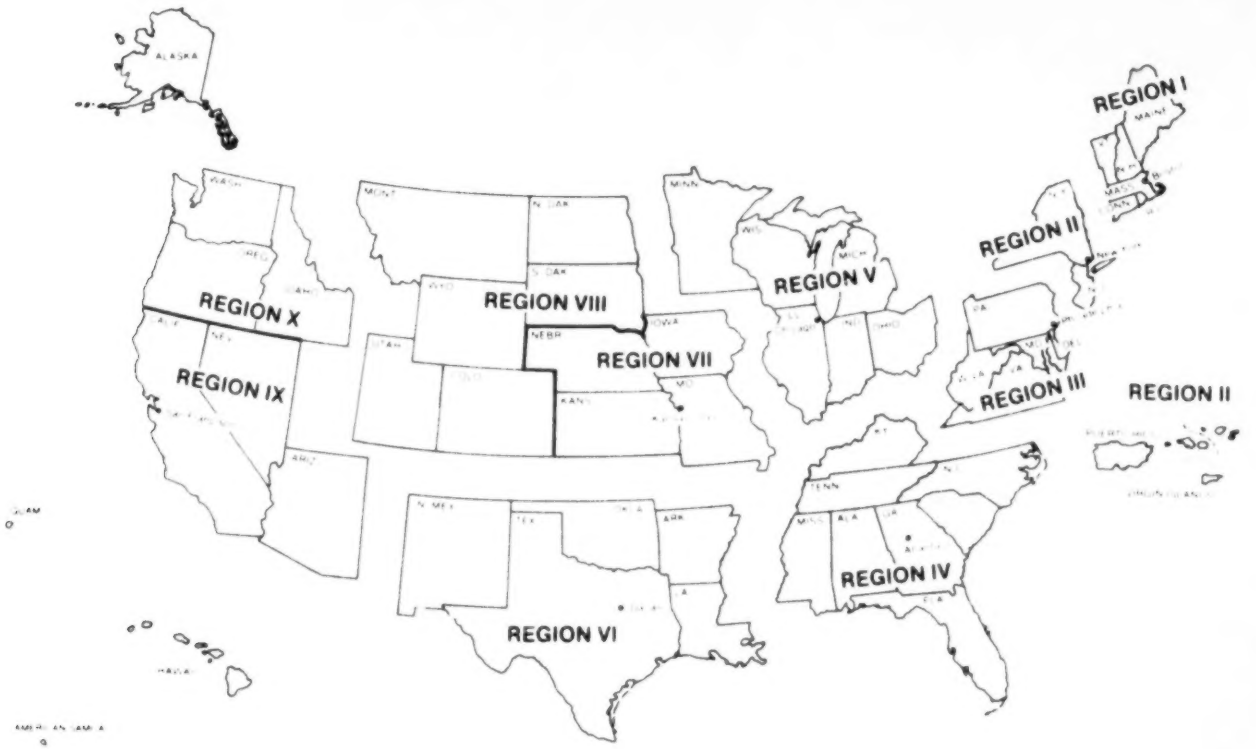

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